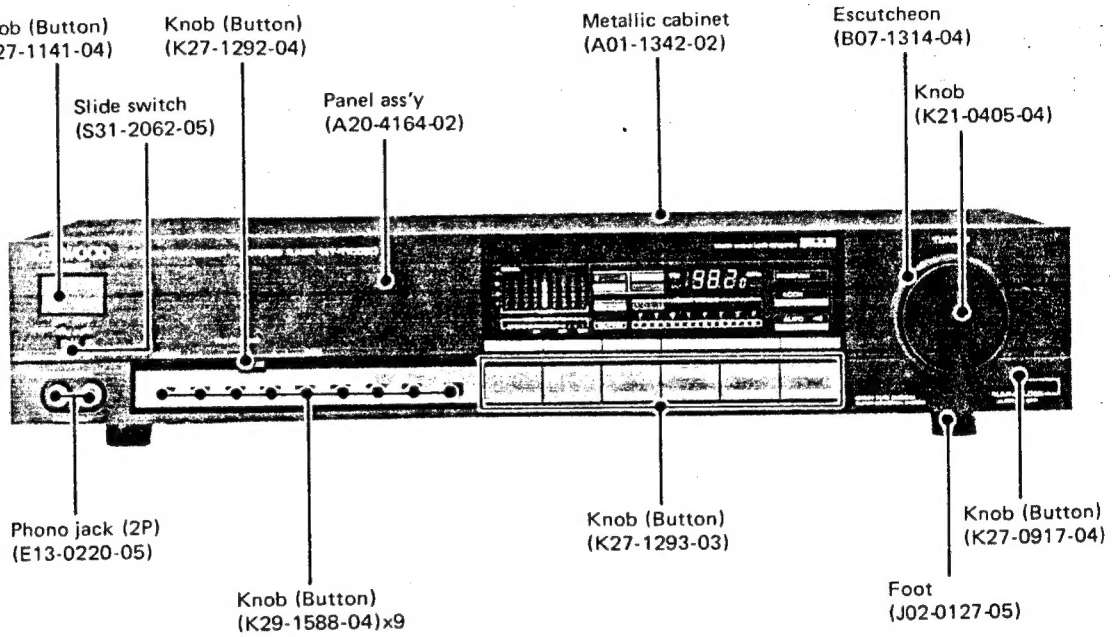
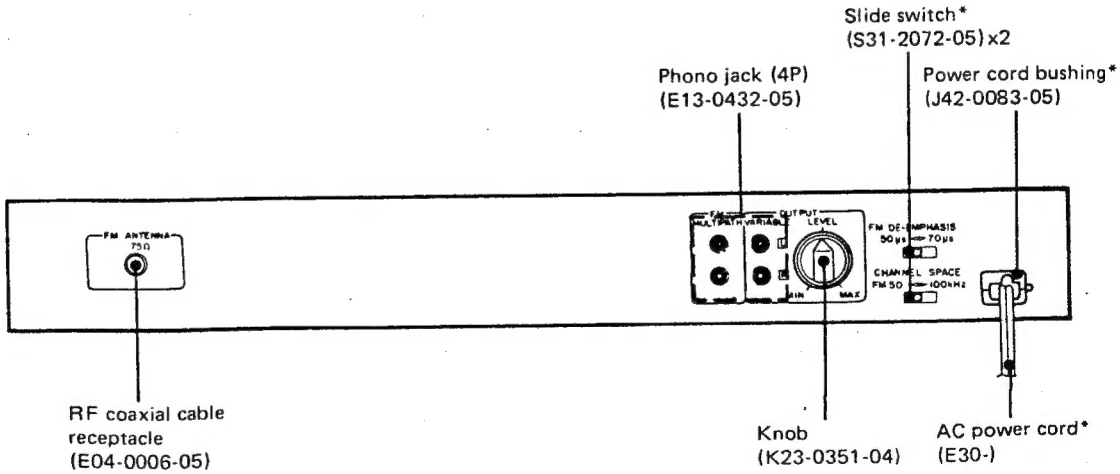
SERVICE MANUAL

KENWOOD KT-1100SD

QUARTZ SYNTHESIZER FM STEREO TUNER





*Refer to parts list on page 22.

CIRCUIT DESCRIPTION

Operation of active elements

Tuner unit (X05-2810-11)

Element	Function	Operation (compatible)
IC1 1/2	DCC distortion component adder	
IC1 2/2	PLL detector DC amp	
IC2 1/2	Noise amp	Amplifies the noise detection component of more than approx. 150kHz.
IC2 2/2	Band, noise muting detection comparator	With no input or incomplete detuning, output ⑦ is −11V at ⑤ < ⑥. With normal tuning, it is + 11V at ⑤ > ⑥. (AN6556)
IC3	Multiplier	Multiplies the composite signals from the detector by each other to generate the secondary distortion elimination signal.
IC4	Multiplier	Multiplies the secondary distortion signals generated at IC3 and IC6 and the composite signal, to generate the tertiary distortion elimination signal.
IC5	Multiplier	Multiplies the secondary distortion signals generated at IC3 and IC6 by each other to generate the quaternary distortion elimination signal.
IC6 2/2	Current-voltage conversion	Converts the current output of IC3 (multiplier) into a voltage output.
IC6 1/2	Secondary distortion signal amp	The variable gain amp which changes the correction amount of distortion corresponding to FM-IF band selection. (NJM4560)
IC7 1/2	Current-voltage conversion	Converts the current output of IC4 into a voltage output.
IC7 2/2	Current-voltage conversion	Converts the current output of IC4 into a voltage output. (NJM4560)
IC8 1/2	DET distortion correcting differential amp	Changes the differential balance by VR1 to vary the gain and phase.
IC8 2/2	Secondary stereo (Lch only) distortion correction differential amp	Changes the differential balance by VR3 to vary the gain and phase. (NJM4560)
IC9 1/2	Secondary MONO distortion correction differential amp	Changes the differential balance by VR2 to vary the gain and phase.
IC9 2/2	Quaternary distortion (primary differentiation) correction differential amp	Changes the differential balance by VR6 to vary the gain and phase. (NJM4560)
IC10 1/2	Tertiary stereo (SUB) distortion correction differential amp	Changes the differential balance by VR5 to vary the gain and phase.
IC10 2/2	Quaternary distortion (secondary differentiation) correction differential amp	Changes the differential balance by VR7 to vary the gain and phase. (NJM4560)
IC11	REC CAL OSC integrator	Forms the feedback loop by 2 integrators (1/2) and (2/2) for oscillation. The output of (2/2) is a sine wave. At OFF, the voltage at pin ⑤ rises by D46 and the voltage at pin ⑦ is fixed to +11V so that OSC stops. (AN6556)
IC12 1/2	Pilot cancel signal inversion amp	
IC12 2/2	Composite signal-REC CAL signal selection and pilot cancel inversion adder	REC CAL OFF : Adds the composite signal and the pilot cancel signal and performs inversion amplification. REC CAL ON : Inversion-amplifies the REC CAL signal.
IC13	38kHz subcarrier generating MPX IC	Pin ⑤ : Stereo with auto quieting control pin at less than 1.0V. Mono with pin at more than 1.8V. Pin ⑥ : 38kHz square wave output Pin ⑪ : Stereo indicator drive Pin ⑫ : Pilot cancel signal (triangle wave) output Pins ⑬ – ⑯ : PLL loop filter Pin ⑰ : VCO
IC14~17	SUB demodulation linear multiplier	Multiplies the composite signal and the 38kHz subcarrier. The respective I/O pins are at current mode. Pin ① : 38kHz input Pin ④ : Output Pin ⑧ : Composite signal input
IC18 1/2	SUB signal inversion	Inverts the Rch SUB signal.

SPECIFICATIONS

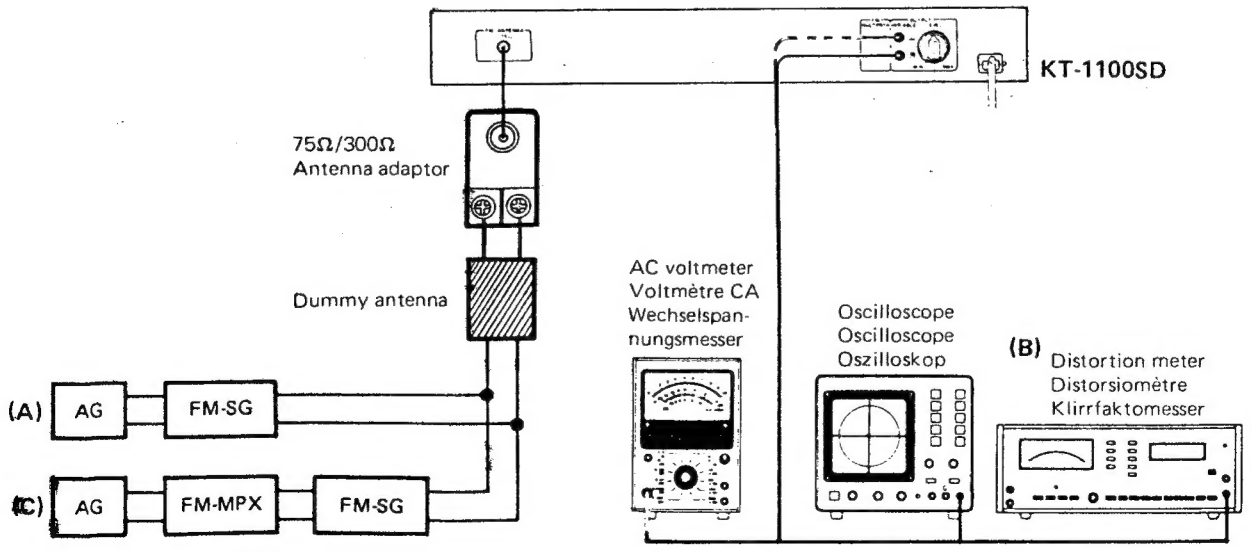
[FM tuner section]

	DISTANCE	DIRECT
Usable sensitivity	10.8 dBf (0.95 μV)	25.2 dBf (5.0 μV)
50dB quieting sensitivity		
Mono	16.2 dBf (1.8 μV)	31.2 dBf (10.0 μV)
Stereo	38.1 dBf (22 μV)	51.2 dBf (100 μV)
Signal to noise ratio (85 dBf)		
Mono	92 dB	
Stereo	86 dB	
Total harmonic distortion	**WIDE**	**NARROW**
Mono: 100 Hz	0.007%	0.02%
1,000Hz	0.004%	0.01%
50 Hz ~ 10,000 Hz	0.009%	0.04%
Stereo: 100 Hz	0.015%	0.04%
1,000 Hz	0.008%	0.03%
50 Hz ~ 10,000 Hz	0.04%	0.15%
Capture ratio	1.0 dB	2.5 dB
Alternate channel selectivity (±400 kHz)	70 dB	100 dB
Stereo separation		
1,000 Hz	70 dB	58 dB
50 Hz ~ 10,000 Hz	55 dB	45 dB
15,000 Hz	45 dB	40 dB
Frequency response	20 Hz to 15 kHz +0.5 dB, –0.5 dB	
Spurious rejection ratio	110 dB	
Image rejection ratio	80 dB	
IF rejection ratio	110 dB	
AM suppression ratio	80 dB	
Subcarrier suppression ratio	70 dB	
Antenna impedance	75 ohms unbalanced	
Tuning frequency range	87.5 MHz to 108 MHz	
Output level at 1 kHz 100% dev.		
Fixed	0.6V/2.3 kΩ	
Variable	MAX 1.2V/1 kΩ	
Multipath output		
Vertical	0.05V/10kΩ	
Horizontal	0.6V/10kΩ	

[General]

Power requirement	120V, 60 Hz (U.S.A. and Canada models) Model sold elsewhere incorporates switches to accomodate 50/60 Hz, 120/220-240V
Power consumption	22 W
Dimensions	W: 440 mm (17-5/16") H: 88 mm (3-15/32") D: 326.5 mm (12-27/32")
Weight (Net)	4.6 kg (10.2 lb)

SYSTEM CONNECTIONS



CIRCUIT DESCRIPTION

Element	Function	Operation (compatible)
IC18 2/2	Current-voltage conversion (I—V)	Converts the current mode SUB demodulation signal emitted from IC14~17 into a voltage output.
IC19 1/2	Rch adder	Outputs the Rch signal in MAIN −SUB.
IC19 2/2	Lch adder	Outputs the Lch signal in MAIN + SUB.
IC20 1/2	Rch output amp	Makes de-emphasis at the same time.
IC20 2/2	Lch output amp	Makes de-emphasis at the same time. (NJM4558)
IC21	Skipped number	
IC22 1/2	TUNED (STOP) signal detection comparator	Inputs the reference voltage (1.4V) to pin ③ (negative input). Inputs SIGNAL to pin ④ (positive input). Also applies the positive feedback from pin ② (output) to perform Schmitt operation. It is pulled into the negative side by the M & noise signal (IC2 2/2), therefore only when the M & noise signal is "H" and SIGNAL is more than 1.4V, the output is "H" where the TUNED signal is output.
IC22 2/2	SIGNAL amp	Adds the voltage change from the emitter of the differential amp in the IF amp stage and performs non-inversion amplification. (AN6556)
IC23 1/2	Inversion amp	Varies the voltage range of the DC input to IC23 (2/2) and IC24.
IC23 2/2	FM IF BAND change comparator (between N1 and N2)	Switches CF5, Q33 and Q48.
IC24 1/2	FM IF BAND change comparator (between W2 and N1)	Switches CF4, Q32 and Q47.
IC24 2/2	FM IF BAND change comparator (between W1 and W2)	Switches CF3, Q31 and Q46.
IC25 1/2	DIRECT-DISTANCE selection comparator	DIRECT when pin ③ > ④ (2.2V) DISTANCE when pin ③ < ④ .
IC25 2/2	Muting signal generation comparator in FM IF BAND selection	At steady state : Pin ⑥ +0.3V Pin ⑦ −0.3V Pin ⑧ +11V At selection : Pin ⑧ is −10V at pin ⑥ < ⑦ . (6msec.)
IC26	FM OSC divider	Divides FM OSC by 30 or 32.
IC27	DTS controller	Controls the PLL synthesizer, display, etc.
IC28 1/2	1st stage D-FF	Q = "H" by first OFF → ON in program operation.
IC28 2/2	Clock pulse generating one-shot multivibrator	Generates at rising edge of the INH clock pulse to IC28 (1/2) or IC29 D-FF. (MB84013BM)
IC29 1/2	3rd stage D-FF	Q = "H" by second OFF → ON in program operation.
IC29 2/2	2nd stage D-FF	Like wise, Q = "H" by second OFF → ON. (MB84013BM)
IC30 1/3	M8 call 2-input NOR	When Q (pin ②) of IC28 (1/2) is "L" and the clock pulse from IC28 (2/2) is "L", and the output (Pin ⑨) is "H" where MEMORY 8 is called.
IC30 2/3	M6 call 3-input NOR	When Q (pin ②) of IC28 (1/2) is "L" and Q (pin ⑬) of IC29 (2/2) "L" and the clock pulse is "L", the output (pin ⑥) is "H" where MEMORY 6 is called.
IC30 3/3	M6 call 3-input NOR	When Q (pin ⑫) of IC28 (2/2) is "L" and Q (pin ①) of IC29 (1/2) is "L" and the clock pulse is "L", the output (pin ⑩) is "H" where MEMORY 7 is called. (MC14025BCP)
IC31	T-FF for different modes	DEVIATION ON/OFF input pin ⑮ , output pin ① REC CAL ON/OFF input pin ⑭ , output pin ③ MUTING ON/OFF input pin ⑬ , output pin ⑤ AUTO/MANUAL input pin ⑫ , output pin ⑦ At backup, pins ② , ④ , ⑥ , ⑨ and ⑩ are "L".
IC32 1/4	Muting signal generating 2-input NOR in DIRECT-DISTANCE selection	
IC32 2/4	2-input NOR	Only at REC CAL OFF (pin ⑥ "L"), outputs the "H" muting signal in DIRECT-DISTANCE selection or FM IF BANS selection.
IC32 3/4	R-S FF for DIRECT-DISTANCE selection	Forms the R-S FF by cmbination with 4/4 and selects DISTANCE when pin ⑬ is "H".
IC32 4/4		Selects DIRECT when pin ⑨ is "H". (MC14001BCP)

CIRCUIT DESCRIPTION

Element	Function	Operation (compatible)
Q1	RF amp	
Q2	Mixer	
Q3,4	IF amp	
Q5	Mixer OSC buffer	
Q6	OSC	
Q7	PLL OSC buffer	
Q8~27	IF amp	
Q28,29	PLL DET OSC	
Q30	DCC input ON/OFF	With small input (TUNED = "L"), stops DCC.
Q31	DCC correction amount control	OFF → ON at IF BAND W1 → W2
Q32	DCC correction amount control	OFF → ON at IF BAND W2 → N1
Q33	DCC correction amount control	OFF → ON at IF BAND N1 → N2
Q34	REC CAL control	REC CAL ON : OFF REC CAL OFF : ON
Q35	REC CAL control	REC CAL ON : ON REC CAL OFF : OFF
Q36	FM/REC CAL signal selection	FM : ON REC CAL : OFF
Q37	FM/REC CAL signal selection	FM : OFF REC CAL : ON
Q39	38kHz differential amp	
Q40	38kHz buffer	
Q41	SIGNAL signal inversion	
Q42	MO/ST selection by TUNED signal	ON when stereo signal is received and TUNED is "H".
Q43	MONO/ST control	MONO : OFF STEREO : ON
Q44	MONO/ST control	MONO : ON STEREO : OFF
Q45	SUB signal ON/OFF	MONO : ON STEREO : OFF
Q46	Separation correction amount control	OFF → ON at IF BAND W1 → W2
Q47	Separation correction amount control	OFF → ON at IF BAND W2 → N1
Q48	Separation correction amount control	OFF → ON at IF BAND N1 → N2
Q49~52	MUTING	ON at muting operation and OFF at no muting operation.
Q53	SIGNAL temperature characteristic correction	Matches the positive and negative input signals of IC22 (2/2) in respect to temperature characteristic.
Q54	DISTANCE power driver	DIRECT : OFF DISTANCE : ON
Q55	PLL LPF	
Q56	PLL LPF	
Q57	PLL LPF	
Q58	AUTO/MANUAL selection	AUTO SCAN : OFF MANUAL SCAN : ON
Q59	REC ON/OFF operation detection	ON when REC CAL SW is turned ON/OFF. The collector is "H".
Q60	DEVIATION OFF	ON at DEVIATION OFF. The emitter is "L" (0.6V).
Q61	DIRECT/DISTANCE control	DIRECT : ON DISTANCE : OFF
Q62	DISTANCE indication control	DIRECT : OFF DISTANCE : ON
Q63	MUTING control by DTS	On at scan or preset call. Normally OFF.
Q64	MUTING control in operation of REC SW, DIR/DIS SW, IF BAND VR	ON at SW operation or at IF BAND VR operation (only at TUNED = "L".)
Q65	MUTING ON/OFF control	MUTE ON : OFF, MUTE OFF : ON and then it turns OFF D67.
Q66	MUTING FET control	At output muting operation : ON, collector + 4.3V At no output muting operation : OFF, collector −11V
Q67	MUTING FET control	Forms the Schmitt trigger by combination with Q66.

CIRCUIT DESCRIPTION

Element	Function	Operation (compatible)
D1~8	RF tuning	
D9~14	OSC tuning	
D15,17	DIRECT/DISTANCE selection at RF tuning stage	DIRECT : ON DISTANCE : OFF
D16,18	DIRECT/DISTANCE	DIRECT : OFF DISTANCE : ON
D19,20	IF BAND W1/W2 selection	W1 : OFF W2,N1,N2 : ON
D21,22	IF BAND W1/W2 selection	W1 : ON W2,N1,N2 : OFF
D23,24	IF BAND W1/N1 selection	W1,W2 : OFF N1,N2 : ON
D25,26	IF BAND W2/N2 selection	W1,W2 : ON N1,N2 : OFF
D27,28	IF BAND N1/N2 selection	W1,W2,N1 : OFF N2 : ON
D29,30	IF BAND N1/N2 selection	W1,W2,N1 : ON N2 : OFF
D31~34	PLL DET phase comparator	
D35	PLL DET VCO	
D36	Current regulator diode	
D37	For PLL DET reference power	8.2V
D38	For PLL DET temperature characteristic correction	
D39,40	For detune detection	ON at detune
D41	Level shift	
D42	Detune by noise	ON at small input
D43	Noise detection	
D44,45	REC CAL amplitude limitation	
D46	REC CAL OSC stop	REC CAL ON : OFF REC CAL OFF : ON
D47	For MPX IC power	8.2V
D48	SIGNAL temperature compensation	
D49	TUNED control by M & noise	ON at small input or detune
D50,51	IC25 2/2 input clamp	
D52	Negative input cut	
D53,54	Backup current leak prevention	
D55	AUTO SCAN selection	
D56	Preset ch-6 call	
D57	Preset ch-7 call	
D58	Preset ch-8 call	
D59	Backup current leak prevention	
D60	Negative input cut	
D61,62	(REC ON) or (TUNED)	
D63,64	Mute in DIR/DIS SW operation and in IF BAND selection	
D65	Backup current leak prevention	
D66	Muting control	
D67	Muting control	ON at MUTING ON and TUNED = "L"
D68	Muting control	
D69	Muting control	ON at REC CAL ON
D70	Muting control	Delays the rise of TUNED "L" → "H".
D71	Level shift	0.6V down
D72	Muting control	
D73	Level shift	0.6V down
D74	Muting control	ON at TUNED = "H".
D75	Level clamp	Clamps to −0.6V the negative voltage of MUTE in IF BAND selection.

CIRCUIT DESCRIPTION

Accessory unit (X13-4740-11)

Element	Use	Operation
Q1	Deviation meter control	At ON, the meter goes off.
Q2,3	Deviation meter reset	Reset the meter peak hold in a fixed period.
Q4,5	Differential SW	Detect the tune/detune against the S curve center.
Q6,7	Detune detection, driver	Detect the S curve detune and light the T meter FL.
Q8	Detune detection	ON at detune and makes Q6 and Q7 active.
Q9	WIDE indication control	At ON, the WIDE display goes out.
Q10	NARROW indicator control	At ON, the NARROW display goes out.
Q11,12	50k indication control	Controls the 50kHz LED segments by ON-OFF.
IC1	Deviation meter	
IC2 1/2(1~3)	Level shift	Shifts the T meter center voltage.
IC2 2/2(5~7)	S meter drive	Drives the 6th unit of the S meter FL.
IC3 1/2(1~3)	Buffer	
IC3 2/2(5~7)	S meter drive	Drives the 7th unit of the S meter FL.
IC4	T meter	Controls the lateral axis of the T-S meter FL.
IC5	S meter drive	Drives the 1st~5th units of the S meter FL.
IC6,7	FL drive	Convert the system of low voltage (5V) into that of high voltage (14V) and drive FL.
IC8	f indication driver	f display static driver.
IC9	Tuning detection	Detects the up or down frequency directon of tuning.
IC10	UP/DOWN control	Distribute pulses to the up frequency and down frequency sides according to the tuning direction.
IC11	Frequency division, monostable	Divides the tuning pulse and holds it for a fixed period.

CIRCUIT DESCRIPTION

Muting control

1. At power ON ⟷ OFF

When an "L" signal is input from X00-2290-11 via D72 and R452 to Q66 to turn ON, its collector voltage is + 4.5V so that the muting turns ON.

2-1 At REC ON ⟷ OFF

The muting works through the course of SW ON → Q59 ON → Q64 ON → Q66 ON. After that, Q64 turns OFF and its collector voltage rises approx. 1sec by a capacitor C184. Then, Q66 turns OFF and the muting is cancelled.

2-2 At REC ON

+ 5V from the collector of Q35 is input via D69 and the cathode of D68 is made "H". Then, the muting operation by the muting signal from DTS or the TUNED signal is prevented.

Likewise, when pin (6) of IC32 (2/4) is made "H", the muting operation in IF BAND or DIRECT-DISTANCE selection at pin (5) is prevented.

3. At DTS SW operation (scan, preset call)

By the mute signal of pin 28 of TC9147, Q63 turns ON and Q66 turns ON so that the muting operation goes ON. After that, the signal of pin 28 becomes "L". Then, Q63 turns OFF and Q66 turns OFF after approx. 1sec by a capacitor C183 and a resistor R446, thereby cancelling the muting.

4. Muting by TUNED signal

When the TUNED signal becomes "L" (−11V), Q66 turns ON and the muting goes ON.

At MUTE OFF, pin (5) of TC9130P becomes "L", Q65 turns ON and the cathode of D67 becomes "H", Then, the muting by the TUNED signal goes OFF.

5. At DIRECT ⟷ DISTANCE change

The changes in level of pins (10) and (11) of μPD4001 are momentarily input to pins (1) and (2) via a capacitor C181 and C182, and the output of pin (3) is made "L".

An "L" signal is input to pin (5) of μPD4001via a diode D63 and as pin (6) is also "L", pin 4 becomes "H". Thereby, Q64 and Q66 turn ON so that the muting goes ON. After that, as pin(3)of μPD4001 returns to "H", pin(4)of IC32 (2/4) becomes "L" and Q64 turns OFF and Q66 turns OFF after a certain time (C184).

Therefore, the muting is cancelled.

6. At FM IF BAND change (at non-tuning = TUNED "L")

An "L" signal is input to pin (5) of μPD4001, after which the subsequent operation is the same as at item 5.

7. Q67 applies the positive feedback to Q66 so that hysteresis is applied to the input to the base of Q66.

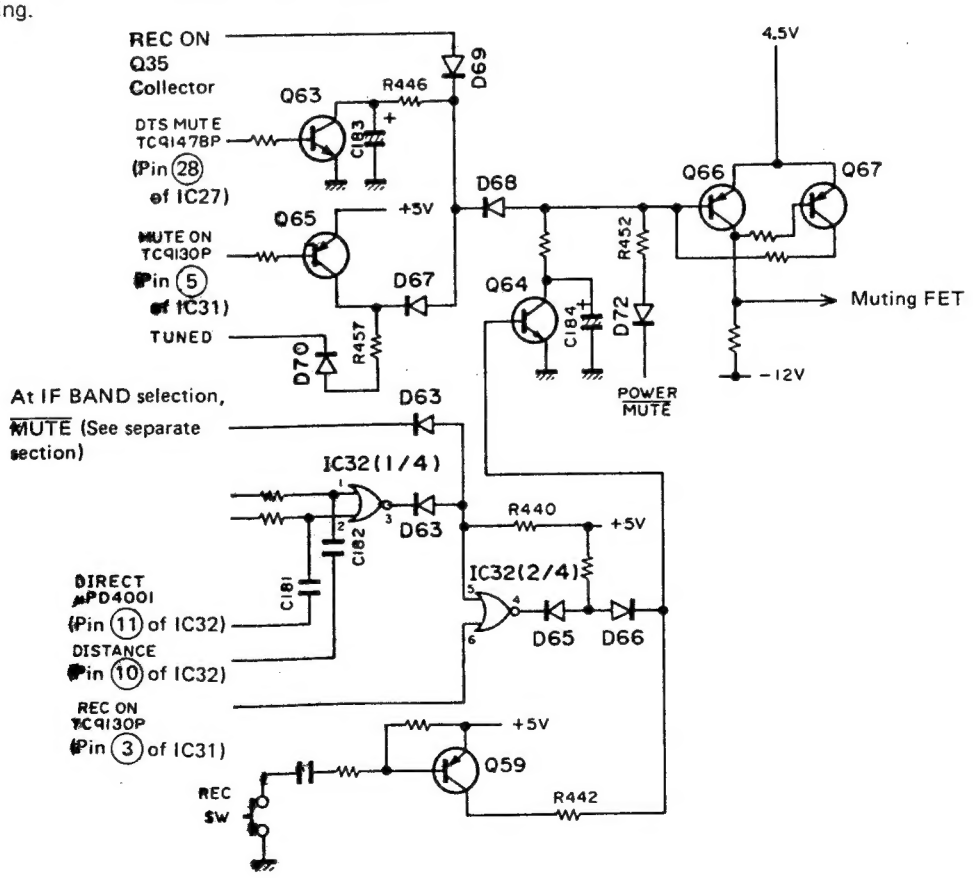


Fig. 1 Muting control

CIRCUIT DESCRIPTION

Muting operation in FM IF BAND selection, and BAND selection

For FM IF BAND selection, the voltage given by VR3 is subject to comparison by 3 ICs (IC23 (2/2), IC24 (1/2), IC24 (2/2)) and the undermentioned voltages are output lines ⓐ ~ ⓒ .

The muting signal in IF BAND selection is generated by IC25 (2/2).

1. At steady state, the positive input (pin ⑥) of IC25 (2/2) is kept at +0.3V and the negative input (pin ⑦) at −0.3V. Then, since the output (pin ⑧) is "H" (+ 11V), the muting is OFF.
2. When changing the band by IF BAND VR, when a comparator (IC23 (2/2), IC24 (1/2), IC24 (2/2)) shown below is inverted from "L" (−9V) to "H" (+ 10V), the differentiated voltage of the positive side is input to pins ⑦ and ⑥ via capacitors (C146~C151). However, since pin ⑥ is clamped to 0.6V by a diode (D50), the output of pin ⑧ becomes "L"s (−10V) at pin ⑥ < pin ⑦ .
   However, since the differentiated input gradually returns to its previous level, the output of pin ⑧ becomes "H" again.
3. When the comparator is inverted from "H" to "L", the input of pin ⑦ is clamped by a diode D51 and the output of pin ⑧ becomes "L" from "H" at pin ⑥ < pin ⑦ as mentioned previously. However, it returns gradually, to its previous level as in item 2, so that the output of pin ⑧ becomes "H".
4. At normal tuning (TUNED = "H" (+ 11V)), an "H" signal is input via a diode D74. Therefore, even when the band is changed, no muting signal is output.
5. As illustrated, the voltages of lines ⓐ ~ ⓒ are each input to the BAND select SW in the IF amp. Then, with the values shown in the table below, the IF band is continously varied.

Voltage (V) / IF BAND	a	b	c
W1	−9	−9	−9
W2	+ 10	−9	−9
N1	+ 10	+ 10	−9
N2	+ 10	+ 10	+ 10

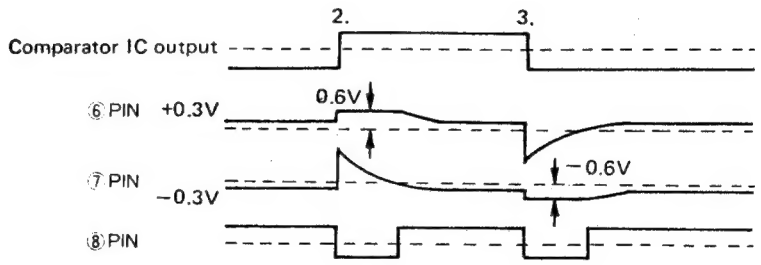


Fig. 2

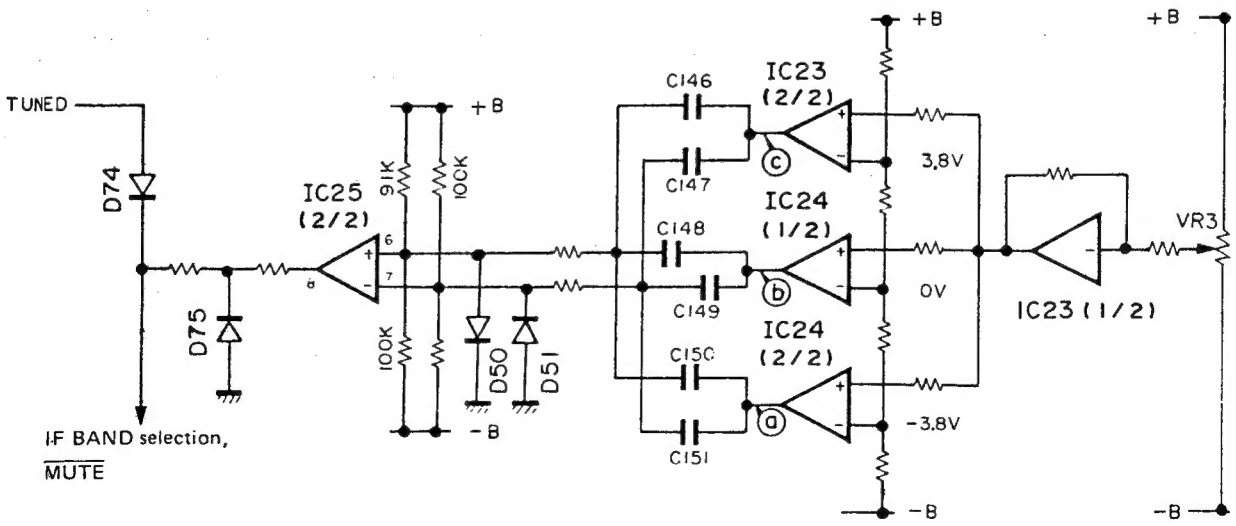


Fig. 3 FM IF BAND select circuit

CIRCUIT DESCRIPTION

Digital rotary tuning

The basic configuration is that the transparent slits (30 slits) on the rotating disk attached to the tuning knob pass through IC9 as shown, whereby the rotary direction is identified, until the required reception frequency is obtained.

IC9 is a photo-interrupter incorporating LED (light-emitting diode), phototransistor and logic circuits.

The phototransistors are arranged in a pair.

1. the signal which identifies the rotary direction is output from pin 4.
   Clockwise rotation (tuning to high frequency band) : high level
   Counterclockwise rotation (tuning to low frequency band) : low level
2. The tuning speed is determined by the number of pulses to be output from pin 5 which are proportional to the number of slits.
   So that by using these two signals (a and b) the UP and DOWN pulses are obtained, logic circuits IC10 and IC11 are added.
   IC11 prevents malfunction and serves as a frequency divider and monostable multivibrator. IC10 distributes pulses for UP or DOWN directions.

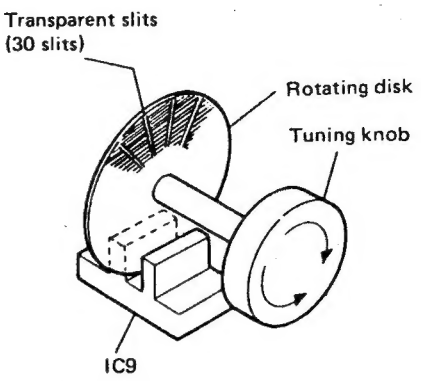


Fig. 4

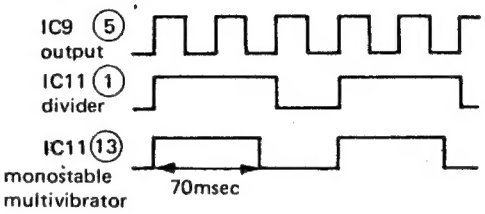


Fig. 5

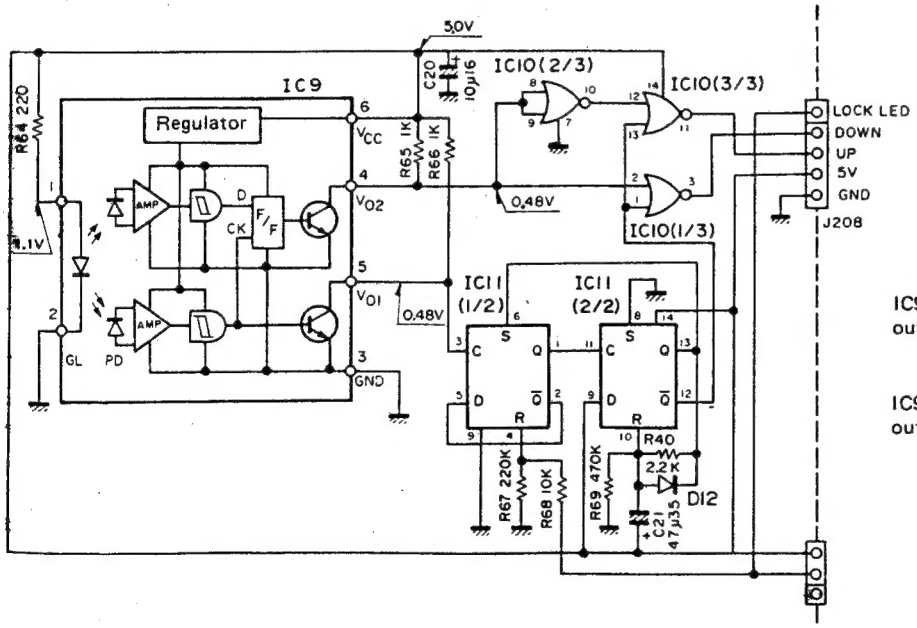


Fig. 6 Digital rotary tuning circuit

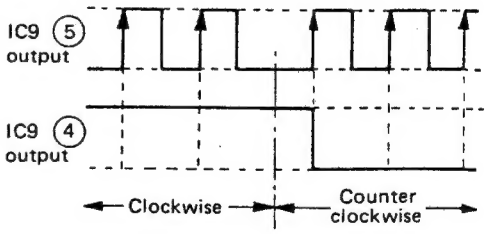


Fig. 7 Operation timing chart of IC9

CIRCUIT DESCRIPTION

4-station program (memory call)

At PROGRAM SW ON, whenever the POWER SW is turned ON, station call is possible in the order of last channel → CH6 → CH7 → CH8.

1. **FF1 operation (one-shot multivibrator)**
   When pin 40 ($\overline{INH}$) of TC9147 rises, Q also rises.
   When the voltage of CLEAR (CL) goes up gradually by a CR time constant and the voltage of pin CL reaches the threshold, FF1 is reset and Q becomes "L". (See Fig. 8.)
2. **FF2~4 operations (shift register)**
   At the rise of output $\overline{Q}$ of FF1 (input CP of each FF), each FF outputs the signal level of D to Q, i.e., this circuit performs the shift operation of "L" to "H" of output Q sequentially whenever the power is turned ON. The following table shows the FF2~4 operations.
3. Since CL becomes "H" at PROGRAM SW OFF, FF2~4 are cleared.

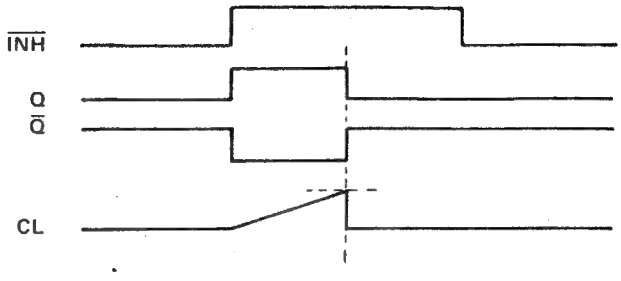


Fig. 8 FF1 one-shot waveform

	FF2	FF3	FF4	CP	NOR1	NOR2	NOR3	PROGRAM
1st time	H ($\overline{Q}$)	H ($\overline{Q}$)	H ($\overline{Q}$)	L	L	L	L	Last CH
2nd time	L ($\overline{Q}$)	L (Q)		L	H	L	L	6 CH
3rd time		L ($\overline{Q}$)	L (Q)	L	L	H	L	7 CH
4th time			L ($\overline{Q}$)	L	L	L	H	8 CH

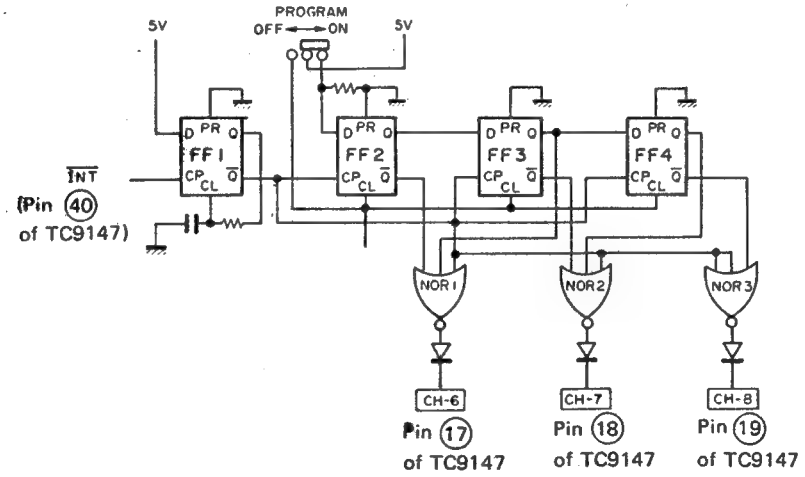


Fig. 9 Program circuit

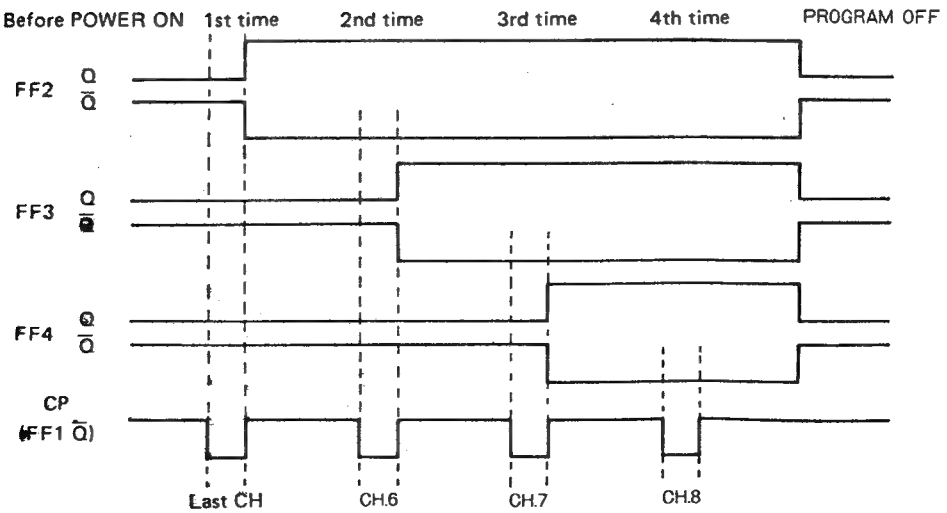


Fig. 10

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION	Unless otherwise specified, the individual switches should be set as following: DIR/DIS: DISTANCE MUTING: ON MODULATION: ON REC CAL: OFF IF BAND: W1 TUNING LOCK: OFF PROGRAM: OFF/A OUT PUT: MAX						
1	BAND EDGE (1)	—	Connect a DC voltmeter between TP1 and TP2.	87.5MHz	L6	3.0V	(a)
2	BAND EDGE (2)	—	Connect a DC voltmeter between TP1 and TP2.	108.0MHz	TC6	24.0V	(a)
	Repeat alignments 1 and 2 several times.						
3	DETECTOR	(A) 98.0MHz 1kHz,±75kHz dev 80dB(ANT input)	Connect a DC voltmeter between TP7 and TP8.	98.0MHz	L21	0.00V	(b)
4	RF ALIGNMENT (1)	(A) 90.0MHz 1kHz,±75kHz dev	(B)	MUTING:OFF 90.0MHz	L5 L1~4	Maximum amplitude and symmetry of the oscilloscope display.	
5	RF ALIGNMENT (2)	(A) 106.0MHz 1kHz,±75kHz dev	(B)	MUTING:OFF 106.0MHz	TC5 TC1~4	Maximum amplitude and symmetry of the oscilloscope display.	
	Repeat alignments 4 and 5 several times.						
6	IFT	(A) 98.0MHz 1kHz,±75kHz dev 0dB(ANT input)	(B)	MUTING:OFF 98.0MHz	L11,12	Maximum amplitude and symmetry of the oscilloscope display.	
7	MUTING LEVEL	(A) 98.0MHz 1kHz,±75kHz dev 12dB(ANT input)	(B)	MUTING:ON 98.0MHz	VR13	OUTPUT OFF→ON	
8	VCO	(A) 98.0MHz 0 dev 80dB(ANT input)	Connect a frequency counter to TP9 via an AC voltmeter.	98.0MHz	VR12	76.000kHz	(d)
9	PILOT CANCELLER (1)	(C) 98.0MHz 0dev Pilot:±6.75kHz dev 80dB(ANT input)	Connect a AC voltmeter between TP10 and TP11.	98.0MHz	VR11	Minimum 19kHz output.	
10	PILOT CANCELLER (2)	(C) 98.0MHz 0dev Pilot:±6.75kHz dev 80dB(ANT input)	Connect a AC voltmeter between TP10 and TP11.	98.0MHz	L26	Minimum 19kHz output.	
	Repeat alignements 9 and 10 several times.						
11	SUB	(C) 98.0MHz Selector: SUB 100Hz,±68.25kHz dev Pilot:±6.75kHz dev 80dB(ANT input)	(B)	98.0MHz	L28	Minimum distortion.	
12	DISTORTION (1)	(A) 98.0MHz 100Hz,±75kHz dev 80dB(ANT input)	(B)	98.0MHz	VR1	Minimum distortion.	
13	DISTORTION (2)	(A) 98.0MHz 1kHz,±75kHz dev 80dB(ANT input)	(B)	98.0MHz	VR2	Minimum distortion.	
14	DISTORTION (3)	(A) 98.0MHz 1kHz,±75kHz dev 80dB(ANT input)	(B)	98.0MHz	VR4	Minimum distortion.	
15	DISTORTION (4)	(C) 98.0MHz 1kHz,±68.25kHz dev Selector: L Pilot:±6.75kHz dev 80dB(ANT input)	(B)	98.0MHz	VR3	Minimum distortion.	
16	DISTORTION (5)	(C) 98.0MHz 1kHz,±68.25kHz dev Selector: SUB Pilot:±6.75kHz dev 80dB(ANT input)	(B)	98.0MHz	VR5	Minimum distortion.	

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
17	DISTORTION (6)	(C) 98.0MHz 10kHz,±68.25kHz dev Selector: MAIN Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	98.0MHz	VR6	Minimum distortion.	
18	DISTORTION (7)	(C) 98.0MHz 10kHz,±68.25kHz dev Selector: L Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	98.0MHz	VR7	Minimum distortion.	
		Repeat alignments 12~18 several times.					
19	DISTORTION (8) W2	(C) 98.0MHz 1kHz,±68.25kHz dev Selector: SUB Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	IF BAND:W2 98.0MHz	VR8	Minimum distortion.	
20	DISTORTION (9) N1	(C) 98.0MHz 1kHz,±68.25kHz dev Selector: SUB Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	IF BAND:N1 98.0MHz	VR9	Minimum distortion.	
21	DISTORTION (10) N2	(C) 98.0MHz 1kHz,±68.25kHz dev Selector: SUB Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	IF BAND:N2 98.0MHz	VR10	Minimum distortion.	
22	SEPARATION (1) R→L	(C) 98.0MHz 1kHz,±68.25kHz dev Selector: R Pilot: ±6.75kHz dev 80dB(ANT input)	(B) Lch	98.0MHz	VR13	Minimum crosstalk.	
23	SEPARATION (2) L→R	(C) 98.0MHz 1kHz,±68.25kHz dev Selector: L Pilot: ±6.75kHz dev 80dB(ANT input)	(B) Rch	98.0MHz	VR14	Minimum crosstalk.	
24	SEPARATION (3) W2	(C) 98.0MHz 1kHz,±68.25kHz dev Selector: L or R Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	IF BAND:W2 98.0MHz	VR15	Minimum crosstalk. A compromise adjustment may be required if L to R and R to L separation are unequal.	
25	SEPARATION (4) N1	(C) 98.0MHz 1kHz,±68.25kHz dev Selector: L or R Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	IF BAND:N1 98.0MHz	VR16	Minimum crosstalk. A compromise adjustment may be required if L to R and R to L separation are unequal.	
26	SEPARATION (5) N2	(C) 98.0MHz 1kHz,±68.25kHz dev Selector: L or R Pilot: ±6.75kHz dev 80dB(ANT input)	(B)	IF BAND:N2 98.0MHz	VR17	Minimum crosstalk. A compromise adjustment may be required if L to R and R to L separation are unequal.	
27	T-S METER	(A) 98.0MHz 10Hz,±100kHz dev 80dB(ANT input)	FIP (Flourescent indicator)	98.0MHz	VR2 (X13-474)	Symmetry of the T-S meter.	
28	MODULATION	(A) 98.0MHz 1kHz,±67kHz dev 80dB(ANT input)	FIP (Flourescent indicator)	98.0MHz	VR1 (X13-474)	MODULATION 100%	

REGLAGE

*Signal pilote ON: ±6,75kHz dév

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG
SECTION MF		Sauf en cas d'indications spéciales, régler chaque commutateur comme suit: DIR/DIS: DISTANCE MUTING: ON MODULATION: ON REC CAL: OFF IF BAND: W1 TUNING LOCK: OFF PROGRAM: OFF/A OUTPUT: MAX					
1	BORD DE BANDE (1)	—	Connecter un voltmètre CC entre les TP1 et 2.	87,5MHz	L6	3,0V	(a)
2	BORD DE BANDE (2)	—	Connecter un voltmètre CC entre les TP1 et 2.	108,0MHz	TC6	24,0V	(a)
		Répéter les points 1 et 2 plusieurs fois.					
3	DETECTEUR	(A) 98,0MHz 1kHz.±75kHz dév 80dB(Entrée ANT)	Connecter un voltmètre CC entre les TP7 et 8.	98,0MHz	L21	0,00V	(b)
4	ALIGNEMENT HT (1)	(A) 90,0MHz 1kHz.±75kHz dév	(B)	MUTING:OFF 90,0MHz	L5 L1~4	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
5	ALIGNEMENT HT (2)	(A) 106,0MHz 1kHz.±75kHz dév	(B)	MUTING:OFF 106,0MHz	TC5 TC1~4	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
		Répéter les points 4 et 5 plusieurs fois.					
6	TRANSFORMATEUR FI	(A) 98,0MHz 1kHz.±75kHz dév 0dB(Entrée ANT)	(B)	MUTING:OFF 98,0MHz	L11,12	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
7	NIVEAU DU MUTING	(A) 98,0MHz 1kHz.±75kHz dév 12dB(Entrée ANT)	(B)	MUTING:ON 98,0MHz	VR13	OUTPUT OFF→ON	
8	OSCILLATEUR CONTROLE PAR LA TENSION	(A) 98,0MHz 0dév 80dB(Entrée ANT)	Connecter un compteur de fréquence à TP9 par l'intermédiaire d'un voltmètre CA.	98,0MHz	VR12	76,00kHz	(d)
9	CIRCUIT SUPPRESSION DE SIGNAL PILOTE (1)	(C) 98,0MHz 0dév Signal pilote:ON ±6,75kHz dév 80dB(Entrée ANT)	Connecter un voltmètre CA entre les TP10 et 11.	98,0MHz	VR11	19kHz sortie minimale.	
10	CIRCUIT SUPPRESSION DE SIGNAL PILOTE (2)	(C) 98,0MHz 0dév Signal pilote:ON 80dB(Entrée ANT)	Connecter un voltmètre CA entre les TP10 et 11.	98,0MHz	L26	19kHz sortie minimale.	
		Répéter les points 9 et 10 plusieurs fois.					
11	SUB	(C) 98,0MHz 100Hz.±68,25kHz dév Sélection:SUB Signal pilote:ON 80dB(Entrée ANT)	(B)	98,0MHz	L28	Distorsion minimale.	
12	DISTORSION (1)	(A) 98,0MHz 100Hz.±75kHz dév 80dB(Entrée ANT)	(B)	98,0MHz	VR1	Distorsion minimale.	
13	DISTORSION (2)	(A) 98,0MHz 1kHz.±75kHz dév 80dB(Entrée ANT)	(B)	98,0MHz	VR2	Distorsion minimale.	
14	DISTORSION (3)	(A) 98,0MHz 1kHz.±75kHz dév 80dB(Entrée ANT)	(B)	98,0MHz	VR4	Distorsion minimale.	
15	DISTORSION (4)	(C) 98,0MHz 1kHz.±68,25kHz dév Sélection:L Signal pilote:ON 80dB(Entrée ANT)	(B)	98,0MHz	VR3	Distorsion minimale.	
16	DISTORSION (5)	(C) 98,0MHz 1kHz.±68,25kHz dév Sélection:SUB Signal pilote:ON 80dB(Entrée ANT)	(B)	98,0MHz	VR5	Distorsion minimale.	

REGLAGE

*Signal pilote ON: ±6,75kHz dév

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG
17	DISTORSION (6)	(C) 98,0MHz 10kHz,±68,25kHz dév Sélection:MAIN Signal pilote:ON 80dB(Entrée ANT)	(B)	98,0MHz	VR6	Distorsion minimale.	
18	DISTORTION (7)	(C) 98,0MHz 10kHz,±68,25kHz dév Sélection:L Signal pilote:ON 80dB(Entrée ANT)	(B)	98,0MHz	VR7	Distorsion minimale.	
	Répéter les points 12~18 plusieurs fois.						
19	DISTORSION (8) M2	(C) 98,0MHz 1kHz,±68,25kHz dév Sélection:SUB Signal pilote:ON 80dB(Entrée ANT)	(B)	IF BAND:M2 98,0MHz	VR8	Distorsion minimale.	
20	DISTORSION (9) M1	(C) 98,0MHz 1kHz,±68,25kHz dév Sélection:SUB Signal pilote:ON 80dB(Entrée ANT)	(B)	IF BAND:M1 98,0MHz	VR9	Distorsion minimale.	
21	DISTORSION (10) N2	(C) 98,0MHz 1kHz,±68,25kHz dév Sélection:SUB Signal pilote:ON 80dB(Entrée ANT)	(B)	IF BAND:N2 98,0MHz	VR10	Distorsion minimale.	
22	SEPARATION (1) D→G	(C) 98,0MHz 1kHz,±68,25kHz dév Sélection:R Signal pilote:ON 80dB(Entrée ANT)	(B) Lch	98,0MHz	VR13	Diaphonie minimale.	
23	SEPARATION (2) G→D	(C) 98,0MHz 1kHz,±68,25kHz dév Sélection:L Signal pilote:ON 80dB(Entrée ANT)	(B) Rch	98,0MHz	VR14	Diaphonie minimale.	
24	SEPARATION (3) M2	(C) 98,0MHz 1kHz,±68,25kHz dév Sélection:L or R Signal pilote:ON 80dB(Entrée ANT)	(B)	IF BAND:M2 98,0MHz	VR15	Diaphonie minimale. Un compromis de réglage peut être nécessaire si les séparations de gauche à droite et de droite à gauche sont inégales.	
25	SEPARATION (4) M1	(C) 98,0MHz 1kHz,±68,25kHz dév Sélection:L or R Signal pilote:ON 80dB(Entrée ANT)	(B)	IF BAND:N1 98,0MHz	VR16	Diaphonie minimale. Un compromis de réglage peut être nécessaire si les séparations de gauche à droite et de droite à gauche sont inégales.	
26	SEPARATION (5) N2	(C) 98,0MHz 1kHz,±68,25kHz dév Sélection:L ou R Signal pilote:ON 80dB(Entrée ANT)	(B)	IF BAND:N2 98,0MHz	VR17	Diaphonie minimale. Un compromis de réglage peut être nécessaire si les séparations de gauche à droite et de droite à gauche sont inégales.	
27	T-S METRE	(A) 98,0MHz 10Hz,±100kHz dév 80dB(Entrée ANT)	FIP indicateur	98,0MHz	VR2 (X13-474)	Symétrie de l'affichage de l'indicateur. (T-S metre)	
28	MODULATION	(A) 98,0MHz 1kHz,±67kHz dév 80dB(Entrée ANT)	FIP indicateur	98,0MHz	VR1 (X13-474)	MODULATION 100%	

ABGLEICH

* Pilotten ON: ±6,75kHz Hub

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-EMPFANGSABTEILUNG			Außer wenn anders angegeben, die verschiedenen Schalter wie folgt einstellen: DIR/DIS: DISTANCE MUTING: ON MODULATION: ON REC CAL: OFF IF BAND: W1 TUNING LOCK: OFF PROGRAM: OFF/A OUTPUT: MAX				
1	BANDKANTE (1)	—	Einen Gleichspannungs-messer zwischen TP1 und TP2 anschließen.	87,5MHz	L6	3,0V	(a)
2	BANDKANTE (2)	—	Einen Gleichspannungs-messer zwischen TP1 und TP2 anschließen.	108,0MHz	TC6	24,0V	(a)
Abstimmungen 1 und 2 mehrere Male wiederholen.							
3	DETEKTOR	(A) 98,0MHz 1kHz, ±75kHz Hub 80dB(ANT-Eingang)	Einen Gleichspannungs-messer zwischen TP7 und TP8 anschließen.	98,0MHz	L21	0,00V.	(b)
4	HF-ABGLEICH (1)	(A) 90,0MHz 1kHz, ±75kHz Hub	(B)	MUTING:OFF 90,0MHz	L5 L1~4	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
5	HF-ABGLEICH (2)	(A) 106,0MHz 1kHz, ±75kHz Hub	(B)	MUTING:OFF 106,0MHz	TC5 TC1~4	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen 4 und 5 mehrere Male wiederholen.							
6	ZF-ÜBERTRAGER	(A) 98,0MHz 1kHz, ±75kHz Hub 0dB(ANT-Eingang)	(B)	MUTING:OFF 98,0MHz	L11,12	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
7	RAUSCHSPERRE-PEGEL	(A) 98,0MHz 1kHz, ±75kHz Hub 12dB(ANT-Eingang)	(B)	MUTING:ON 98,0MHz	VR13	OUTPUT OFF→ON	
8	SPANNUNGS-GEREGELTER OSZILLATOR	(A) 98,0MHz 0 Hub 80dB(ANT-Eingang)	Einen Frequenzmesser an TP9 über einen Wechselspannungsmesser anschließen.	98,0MHz	VR12	76,00kHz	(d)
9	PILOT-LÖSCHER (1)	(C) 98,0MHz 0 Hub Pilotten:ON ±6,75kHz Hub 80dB(ANT-Eingang)	Einen Wechselspannungsmesser zwischen TP10 und TP11 anschließen.	98,0MHz	VR11	19kHz Minimaler Ausgang.	
10	PILOT-LÖSCHER (2)	(C) 98,0MHz 0 Hub Pilotten:ON 80dB(ANT-Eingang)	Einen Wechselspannungsmesser zwischen TP10 und TP11 anschließen.	98,0MHz	L26	19kHz Minimaler Ausgang.	
Abstimmungen 9 und 10 mehrere Male wiederholen.							
11	SUB	(C) 98,0MHz 100Hz, ±68,25kHz Hub Wähler:SUB Pilotten:ON 80dB(ANT-Eingang)	(B)	98,0MHz	L28	Minimale Klirrfaktor.	
12	KLIRRFAKTOR (1)	(A) 98,0MHz 100Hz, ±75kHz Hub 80dB(ANT-Eingang)	(B)	98,0MHz	VR1	Minimale Klirrfaktor.	
13	KLIRRFAKTOR (2)	(A) 98,0MHz 1kHz, ±75kHz Hub 80dB(ANT-Eingang)	(B)	98,0MHz	VR2	Minimale Klirrfaktor.	
14	KLIRRFAKTOR (3)	(A) 98,0MHz 1kHz, ±75kHz Hub 80dB(ANT-Eingang)	(B)	98,0MHz	VR4	Minimale Klirrfaktor.	
15	KLIRRFAKTOR (4)	(C) 98,0MHz 1kHz, ±68,25kHz Hub Wähler:L Pilotten:ON 80dB(ANT-Eingang)	(B)	98,0MHz	VR3	Minimale Klirrfaktor.	
16	KLIRRFAKTOR (5)	(C) 98,0MHz 1kHz, ±68,25kHz Hub Wähler:SUB Pilotten:ON 80dB(ANT-Eingang)	(B)	98,0MHz	VR5	Minimale Klirrfaktor.	

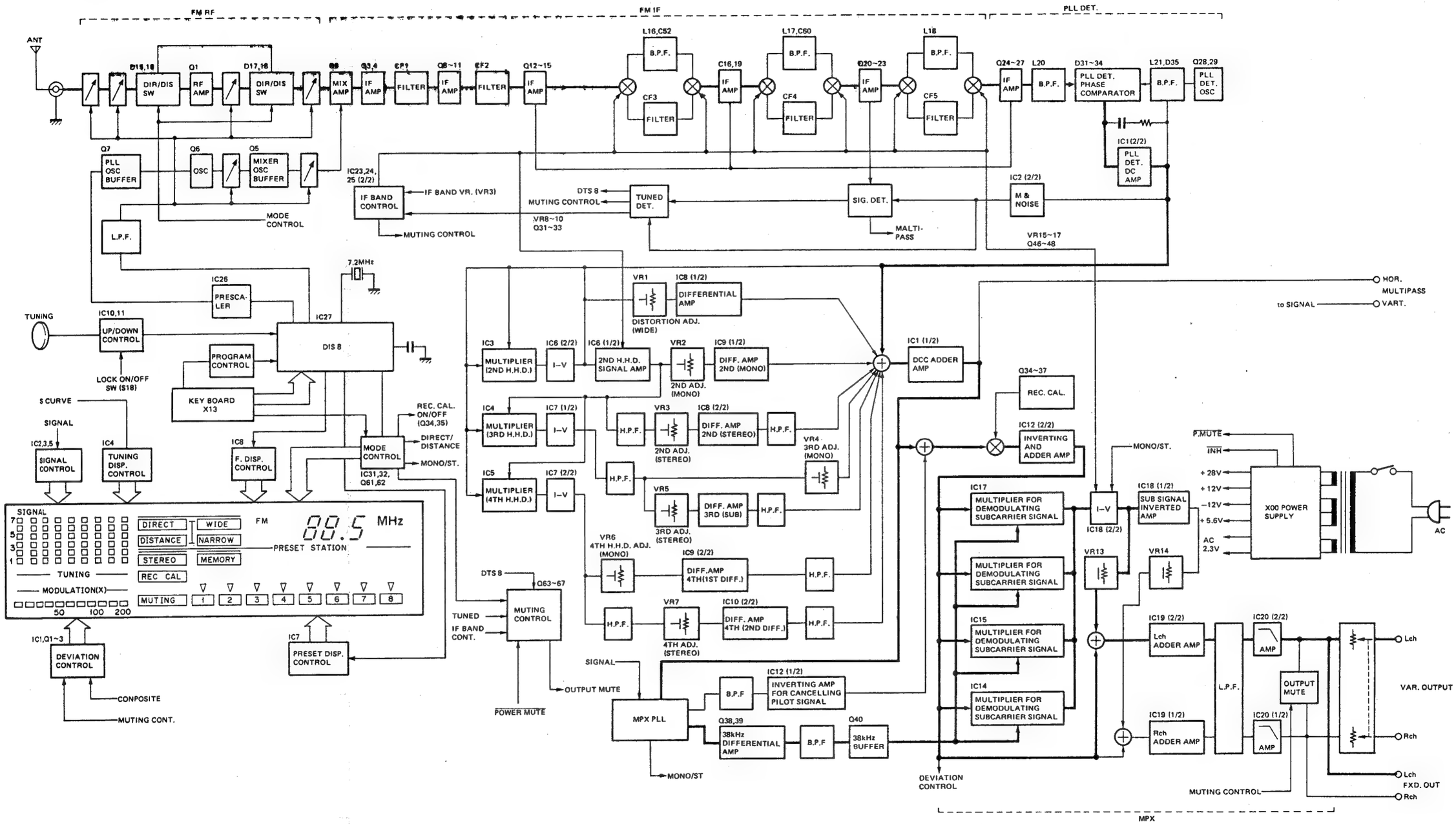
ABGLEICH

* Pilotten ON: ±6,75kHz Hub

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
17	KLIRRFAKTOR (6)	(C) 98,0MHz 10kHz,±68,25kHz Hub Wähler:MAIN Pilotten:ON 80dB(ANT-Eingang)	(B)	98,0MHz	VR6	Minimale Klirrfaktor.	
18	KLIRRFAKTOR (7)	(C) 98,0MHz 10kHz,±68,25kHz Hub Wähler:L Pilotten:ON 80dB(ANT-Eingang)	(B)	98,0MHz	VR7	Minimale Klirrfaktor.	
	Abstimmungen 12~18 mehrere Male wiederholen.						
19	KLIRRFAKTOR (8) W2	(C) 98,0MHz 1kHz,±68,25kHz Hub Wähler:SUB Pilotten:ON 80dB(ANT-Eingang)	(B)	IF BAND:W2 98,0MHz	VR8	Minimale Klirrfaktor.	
20	KLIRRFAKTOR (9) N1	(C) 98,0MHz 1kHz,±68,25kHz Hub Wähler:SUB Pilotten:ON 80dB(ANT-Eingang)	(B)	IF BAND:N1 98,0MHz	VR9	Minimale Klirrfaktor.	
21	KLIRRFAKTOR (10) N2	(C) 98,0MHz 1kHz,±68,25kHz Hub Wähler:SUB Pilotten:ON 80dB(ANT-Eingang)	(B)	IF BAND:N2 98,0MHz	VR10	Minimale Klirrfaktor.	
22	STEREO KANAL TRENNUNG (1) R→L	(C) 98,0MHz 1kHz,±68,25kHz Hub Wähler:R Pilotten:ON 80dB(ANT-Eingang)	(B) Lch	98,0MHz	VR13	Minimales Übersprechen.	
23	STEREO KANAL TRENNUNG (2) L→R	(C) 98,0MHz 1kHz,±68,25kHz Hub Wähler:L Pilotten:ON 80dB(ANT-Eingang)	(B) Rch	98,0MHz	VR14	Minimales Übersprechen.	
24	STEREO KANAL TRENNUNG (3) W2	(C) 98,0MHz 1kHz,±68,25kHz Hub Wähler:L oder R Pilotten:ON 80dB(ANT-Eingang)	(B)	IF BAND:W2 98,0MHz	VR15	Minimales Übersprechen. Einen Ausgleichregelung kann notwendig sein, falls links zu rechts und rechts zu links Trennungen ungleich sind.	
25	STEREO KANAL TRENNUNG (4) N1	(C) 98,0MHz 1kHz,±68,25kHz Hub Wähler:L oder R Pilotten:ON 80dB(ANT-Eingang)	(B)	IF BAND:N1 98,0MHz	VR16	Minimales Übersprechen. Einen Ausgleichregelung kann notwendig sein, falls links zu rechts und rechts zu links Trennungen ungleich sind.	
26	STEREO KANAL TRENNUNG (5) N2	(C) 98,0MHz 1kHz,±68,25kHz Hub Wähler:L oder R Pilotten:ON 80dB(ANT-Eingang)	(B)	IF BAND:N2 98,0MHz	VR17	Minimales Übersprechen. Einen Ausgleichregelung kann notwendig sein, falls links zu rechts und rechts zu links Trennungen ungleich sind.	
27	T-S MESSER	(A) 98,0MHz 10Hz,±100kHz Hub 80dB(ANT-Eingang)	FIP Indikator	98,0MHz	VR2 (X13-474)	Symmetrie des Indikatorbildes. (T-S messer)	
28	MODULATION	(A) 98,0MHz 1kHz,±67kHz Hub 80dB(ANT-Eingang)	FIP Indikator	98,0MHz	VR1 (X13-474)	MODULATION 100%	

KT-1100SD

BLOCK DIAGRAM



KT-1100SD

PC BOARD

POWER SUPPLY
(X00-2290-11)

(b) DC voltmeter

TUNER(X05-2810-11)Component side view

(a) DC voltmeter

FM ANT

AC voltmeter

J5

(d)

Frequency counter

AC voltmeter

SUB-CURCUIT(X13-4740-11)

KT-1100SD(1/2)

X05-2810-11

Q1	G1	10.5V [11.7V]
	G2	0V
	S	3.3V [−2.5V]
	D	0V
Q2	G	0V
	S	3.7V
	D	10.4V
Q3	G	0V
	S	1.7V
	D	–
Q4	G	0V
	S	1.7V
	D	5.4V
Q5	G	0V
	S	0V
	D	–
Q6	G1	–
	G2	–
	S	8.9V
	D	–
Q7	G	–
	S	0V
	D	8.7V
Q28,29	G	–
	S	5.5V
	D	–
Q34	B	4.3V <4.6V>
	C	4.8V <−10.6V>
	E	5.0V
Q35	B	–
	C	−12V <4.8V>
	E	5.0V
Q38	B	–
	C	7.9V
	E	3.4V
Q40	G	–
	S	–
	D	7.9V
Q41	B	−0.4V (−2.7V)
	C	–
	E	−1.0V (−3.3V)
Q42	B	1.3V (−1.3V)
	C	–
	E	–
Q43	B	–
	C	MONO 0.6V, ST. 15V
	E	15V
Q44	B	–
	C	MONO 15V, ST. −12V
	E	15V
Q45	G	–
	S	0V
	D	0V

Refer to the schematic diagram for the values of resistors and capacitors.
The PC board drawing is viewed from the side easy to check.

KT-1100SD

( ) : NO SIG. < > : REC CAL. ON [ ] : DIRECT

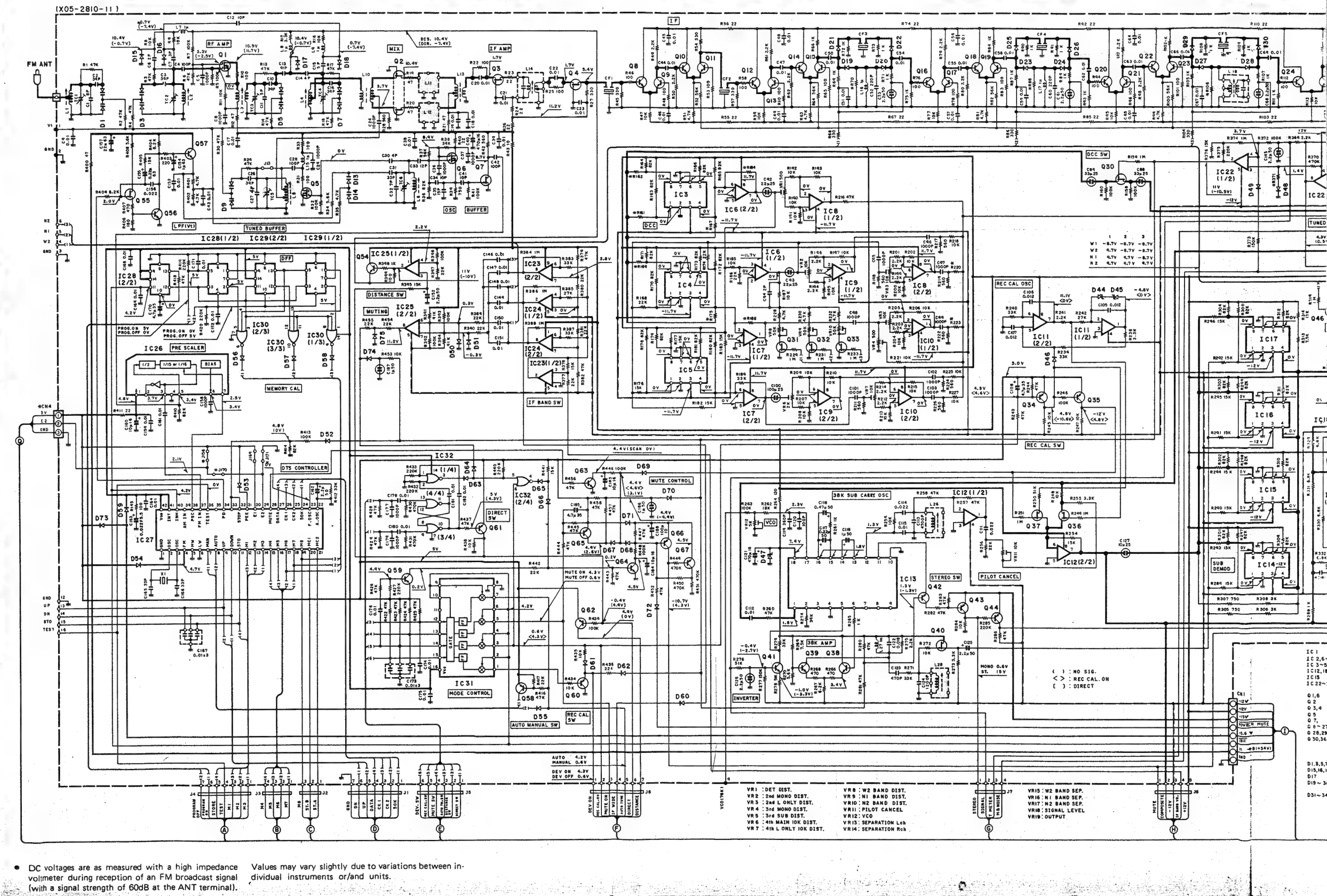
Q49~51	G	–
	S	0V
	D	0V
Q52	G	–9.7V (0.6V)
	S	0V
	D	0V
Q53	B	0V
	C	0V
	E	–0.7V
Q54	B	–
	C	12V
	E	DIS. 10.4V, [DIR. –7.4V]
Q55	G	2.0V
	S	–
	D	–
Q58	B	–
	C	–
	E	5V
Q59	B	4.9V
	C	0.2V
	E	5.0V
Q60	B	–
	C	0V
	E	DEV ON 4.3V DEV OFF 0.6V
Q61	B	5V [4.3V]
	C	–0.4V [4.9V]
	E	5.0V
Q62	B	–
	C	4.9V [0V]
	E	5.0V
Q63	B	–
	C	4.4V (SCAN ON)
	E	0V
Q64	B	0.2V
	C	4.5V
	E	0V
Q65	B	–
	C	4.9V (2.6V)
	E	5.0V
Q66	B	–
	C	–10.7V (4.3V)
	E	4.5V
Q67	B	–
	C	–
	E	4.5V
Q68	G	8.9V
	S	8.9V
	D	–
IC1	1	–
	2	–
	3	0V
	4	–12V
	5	0V

IC1	6	0V
	7	0V
	8	11.8V
IC2	1	0V (–3.0V)
	2	–
	3	0.1V
	4	–12V
	5	0V (–1V)
	6	–0.6V
	7	11.3V (–10.6V)
	8	12V
IC3~5	1	0V
	2	0V
	3	–11.7V
	4	0V
	5	0V
	6	0V
	7	0V
	8	0V
IC6~10	1	0V
	2	0V
	3	0V
	4	–11.7V
	5	0V
	6	0V
	7	0V
	8	11.7V
IC11	1	–4.8V <0V>
	2	–
	3	0V
	4	–12V
	5	–
	6	–
	7	11.1V <0V>
	8	11.7V
IC12	1	–
	2	–
	3	0V
	4	–12V
	5	0V
	6	–
	7	–
	8	12V
IC13	1	1.8V
	2	–
	3	–
	4	0V
	5	–
	6	–
	7	–
	8	–
	9	–
	10	0V

IC13	11	–
	12	1.3V
	13	1.8V
	14	1.8V
	15	1.8V
	16	1.8V
	17	2.3V
	18	7.9V
IC14~17	1	0V
	2	0V
	3	–12V
	4	0V
	5	0V
	6	0V
	7	0V
	8	0V
IC18~20	1	0V
	2	0V
	3	0V
	4	–11.6V
	5	0V
	6	0V
	7	0V
	8	11.6V
IC22	1	–
	2	11V (–10.5V)
	3	1.4V
	4	3.7V
	5	–12V
	6	–0.5V (–0.7V)
	7	–
	8	4.3V (0.5V)
	9	12V
IC23	1	–
	2	–
	3	–
	4	0V
	5	–12V
	6	–
	7	3.8V
	8	–
	9	12V
IC24	1	12V
	3	0V
	5	–12V
IC25	1	12V
	2	11V (–10V)
	3	–
	4	2.2V
	5	12V
	6	0.3V
	7	–0.3V
	8	11.2V
	9	–

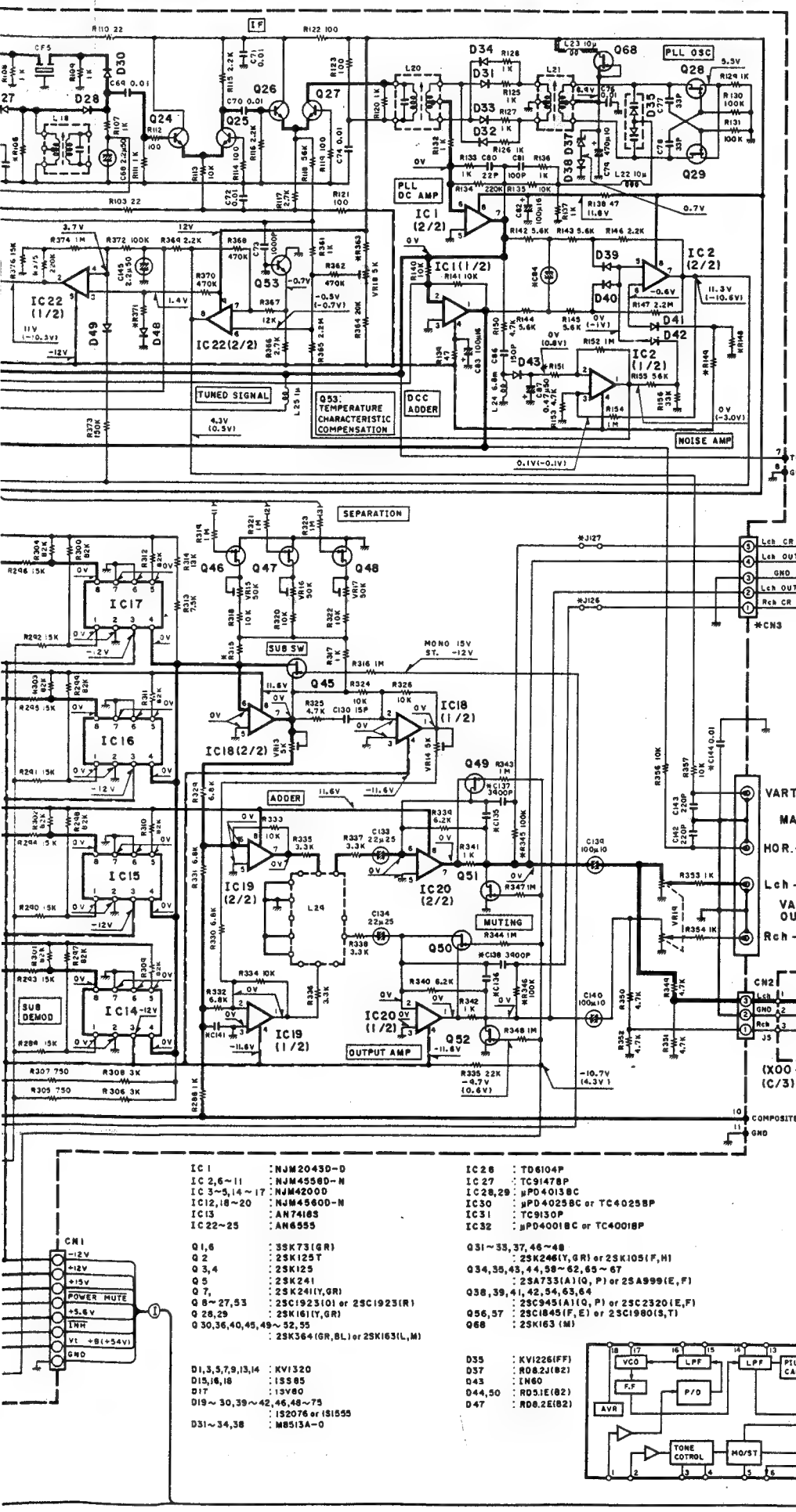
IC26	1	4.8V
	2	–
	3	3.7V
	4	0V
	5	3.4V
	6	3.4V
	7	2.5V
IC27	1	0V
	4	4.7V
	5	0V
	6	0V
	22	0V
	23	0V
	29	0V
	30	5V
	32	4.8V (0V)
	33	4.8V (0V)
	36	0V
	37	2.1V
	38	2.5V
	40	4.2V
	41	5V
	42	5V
IC28	1	–
	2	5V
	3	5V
	4	PROG. ON 0V, PROG. OFF 5V
	5	PROG. ON 5V PROG. OFF 0V
	6	0V
	7	0V
	8	0V
	9	5V
	10	0V
	11	4.2V
	12	5V
	13	–
	14	5V
IC29	1	–
	2	5V
	3	5V
	4	PROG. ON 0V, PROG. OFF 5V
	5	–
	6	0V
	7	0V
	8	0V
	9	–
	10	PROG. ON 0V, PROG. OFF 5V
	11	5V
	12	–
	13	–
	14	5V

IC30	1	5V
	2	5V
	3	5V
	4	–
	5	5V
	6	–
	7	0V
	8	5V
	9	–
	10	–
	11	5V
	12	–
	13	–
	14	5V
IC31	1	–
	2	4.2V
	3	0.6V <4.3V>
	4	4.2V
	5	MUTE ON 4.3V, MUTE OFF 0.6V
	6	4.2V
	7	AUTO 4.2V, MANUAL 0.6V
	8	0V
	9	4.2V
	10	4.2V
	11	–
	12	–
	13	–
	14	–
	15	–
	16	5V
IC32	6	0.6V <4.3V>
	7	0V
	14	5V



- DC voltages are as measured with a high impedance voltmeter during reception of an FM broadcast signal (with a signal strength of 60dB at the ANT terminal).

Values may vary slightly due to variations between individual instruments or/and units.



DESTINATION	K,P 0~11	M 0~21	T,E 2~71
R70, 88	100	100	180
R106	130	130	220
R148	12K	13K	13K
R149	150K	330K	330K
R151	470K	470K	330K
R161	15K	15K	13K
R162	15K	15K	12K
R167	7.5K	7.5K	6.2K
R169,175	15K	15K	12K
R184,186	33K	33K	47K
R220,223	10K	10K	6.8K
R315	6.8K	6.8K	7.5K
R345,346	NO	YES	NO
R363	22K	22K	27K
R371	56K	56K	47K
C84	2.2μ50	3.3μ50	3.3μ50
C135,136	0.012	8200P	8200P
C137,138	NO	YES	NO
C141	220P	220P	560P
C144	NO	NO	YES
J126,127	NO	YES	NO
J156	YES	NO	NO
J170	YES	YES	NO
J171	NO	NO	YES
CN3,4	NO	YES	NO

IC1 : NJM2043D-D
IC 2,6~11 : NJM4558D-N
IC 3~5,14~17 : NJM4200D
IC12,18~20 : NJM4560D-N
IC13 : AN7418S
IC22~25 : AN6555

Q1,6 : 3SK73(GR)
Q 2 : 2SK125T
Q 3,4 : 2SK125
Q 5 : 2SK241
Q 7, : 2SK241(Y,GR)
Q 8~27,53 : 2SC1923(O) or 2SC1923(R)
Q 28,29 : 2SK161(Y,GR)
Q 30,36,40,45,49~52,55 : 2SK364(GR,BL) or 2SK163(L,M)

D1,3,5,7,9,13,14 : KV1320
D15,16,18 : 1SS85
D17 : 13V60
D19~30,39~42,46,48~75 : 1S2076 or 1S1555
D31~34,38 : M5513A-0

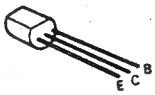
IC28 : TD6104P
IC27 : TC9147BP
IC28,29 : μPD4013BC
IC30 : μPD4025BC or TC4025BP
IC31 : TC9130P
IC32 : μPD4001BC or TC4001BP

Q31~33,37,46~48 : 2SK246(Y,GR) or 2SK105(F,H)
Q34,35,43,44,58~62,65~67 : 2SA733(A)(Q,P) or 2SA999(E,F)
Q38,39,41,42,54,63,64 : 2SC945(A)(Q,P) or 2SC2320(E,F)
Q56,57 : 2SC1845(F,E) or 2SC1980(S,T)
Q68 : 2SK163 (M)

D35 : KV1226(FF)
D37 : RD8.2J(B2)
D43 : IN60
D44,50 : RD5.1E(B2)
D47 : RD8.2E(B2)

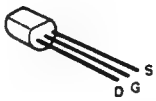
IC13

2SA733 2SC2003
2SA954 2SC2320
2SA999 2SC945
2SC1845 2SD863
2SC1923
2SC1980

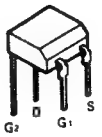


2SK125
2SK125T
2SK246

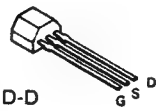
2SK105
2SK163
2SK364



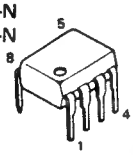
3SK73



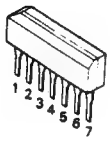
2SK161
2SK241



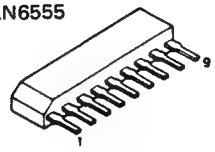
A NJM2043D-D
NJM4200D
NJM4558D-N
NJM4560D-N



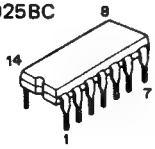
B TD6104P



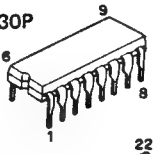
C AN6555



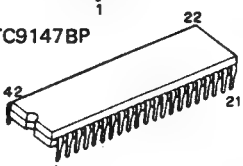
D TC4001BP
TC4025BP
μPD4001BC
μPD4013BC
μPD4025BC



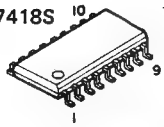
E TC9130P



F TC9147BP



G AN7418S



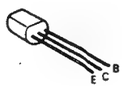
H
I
P
Q

KT-1100SD

KENWOOD

KT-1100SD(1/2)(K)

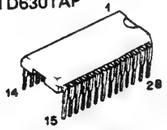
2SA733 2SC1980
2SA954 2SC2003
2SA999 2SC2320
2SC1845 2SC945
2SC1923 2SD863



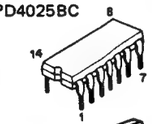
2SB772
2SB882

2SK105
2SK163
2SK364

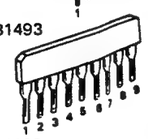
TD6301AP



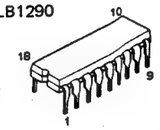
TC4001BP
TC4025BP
μPD4001BC
μPD4013BC
μPD4025BC



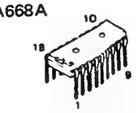
LB1493



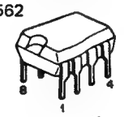
LB1290



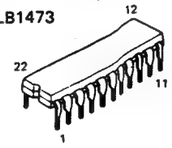
BA668A



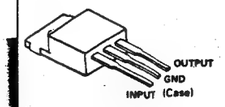
AN6562



LB1473



μPC78M05H



(X13-4740-11)(B/5)

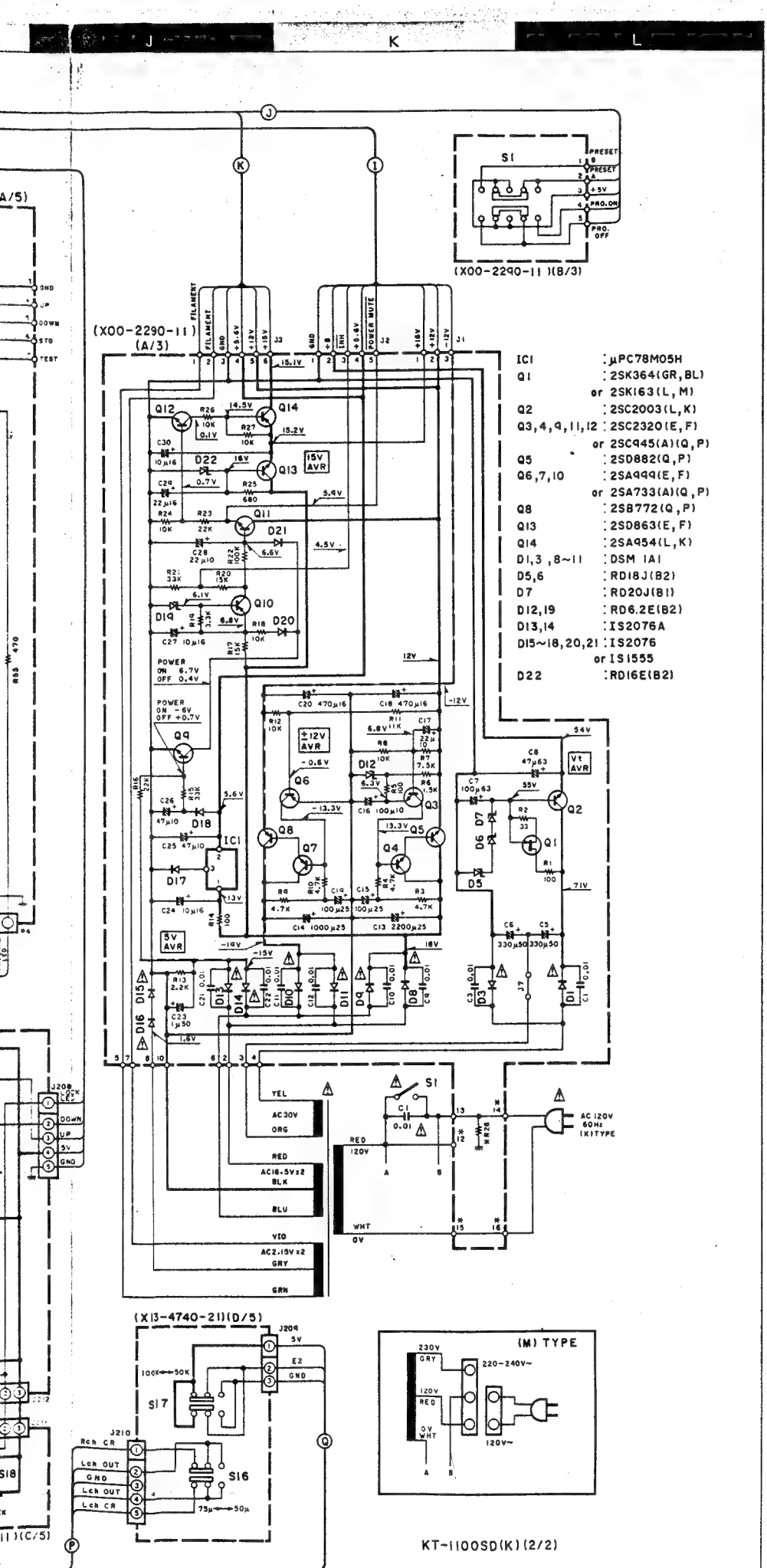
IC1 : BA668A
IC2,3 : AN6562
IC4 : LB1473
IC5 : LB1493
IC6,7 : LB1290
IC8 : TD6301AP
IC9 : GPIA02
IC10 : μPD4001BC
IC11 : μPD4013BC
D1~5,9,10,12 : 1S2076
Q1~5,9,11,12 : 2SC945(A),(Q,P)
Q6~8 : 2SA733(A),(Q,P)

(X13-4740-11)

DESTINATION	J16	J5,6	J9	R11	R12	R13	R14,16~21,23 24,26~28	R15	R43	R50~53	R80	R81	C10	D4	Q4~8	Q11,12
K,P 0~11	YES	YES	NO	2.2K	8.2K	56K	NO	15K	NO	NO	NO	NO	NO	NO	NO	NO
M 0~21	NO	NO	YES	2.2K	8.2K	56K	YES	15K	YES	YES	YES	YES	YES	YES	YES	YES
T,E 2~71	NO	YES	NO	3.6K	6.8K	30K	NO	16K	NO	YES	NO	YES	NO	NO	NO	YES

(00-2290-11)

DESTINATION	12, 14~16 PIN	R28
K,P 0~11	YES	YES
M 0~21	NO	NO
T,E 2~71	YES	NO



SPECIFICATIONS

[FM tuner section]

	DISTANCE	DIRECT
Usable sensitivity	10.8 dBf (0.95 μV)	25.2 dBf (5.0 μV)
50dB quieting sensitivity		
Mono	16.2 dBf (1.8 μV)	31.2 dBf (10.0 μV)
Stereo	38.1 dBf (22 μV)	51.2 dBf (100 μV)
Signal to noise ratio (85 dBf)		
Mono	92 dB	
Stereo	86 dB	
Total harmonic distortion	**WIDE**	**NARROW**
Mono: 100 Hz	0.007%	0.02%
1,000Hz	0.004%	0.01%
50 Hz ~ 10,000 Hz	0.009%	0.04%
Stereo: 100 Hz	0.015%	0.04%
1,000 Hz	0.008%	0.03%
50 Hz ~ 10,000 Hz	0.04%	0.15%
Capture ratio	1.0 dB	2.5 dB
Alternate channel selectivity (±400 kHz)	70 dB	100 dB
Stereo separation		
1,000 Hz	70 dB	58 dB
50 Hz ~ 10,000 Hz	55 dB	45 dB
15,000 Hz	45 dB	40 dB
Frequency response	20 Hz to 15 kHz +0.5 dB, –0.5 dB	
Spurious rejection ratio	110 dB	
Image rejection ratio	80 dB	
IF rejection ratio	110 dB	
AM suppression ratio	80 dB	
Subcarrier suppression ratio	70 dB	
Antenna impedance	75 ohms unbalanced	
Tuning frequency range	87.5 MHz to 108 MHz	
Output level at 1 kHz 100% dev.		
Fixed	0.8V/2.3 kΩ	
Variable	MAX 1.2V/1 kΩ	
Multipath output		
Vertical	0.05V/10kΩ	
Horizontal	0.8V/10kΩ	

[General]

Power requirement	120V, 60 Hz (U.S.A. and Canada models) Model sold elsewhere incorporates switches to accomodate 50/60 Hz, 120/220-240V
Power consumption	22W
Dimensions	W:440 mm (17-5/16") H:88 mm (3-15/32") D:326.5 mm (12-27/32")
Weight (Net)	4.6 kg (10.2 lb)

Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige, Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

- DC voltages are as measured with a high impedance voltmeter during reception of an FM broadcast signal (with a signal strength of 60dB at the ANT terminal).
- Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance pendant la réception d'un signal de programme FM (avec une force de signal de 60dB à la borne ANT).
- Die angegeben Gleichspannungswerte wurden mit einem hochohmigen Voltmeter bei Empfang eines UKW-Signals (mit einer Feldstärke von 60dB am Antennenanschluß)

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KT-1100SD

KENWOOD

X00-2290-11

Q1	G	55V
	S	–
	D	–
Q2	B	55V
	C	71V
	E	54V
Q3	B	6.8V
	C	13.3V
	E	6.3V
Q4	B	13.3V
	C	18V
	E	–
Q5	B	–
	C	18V
	E	12V
Q6	B	–0.6V
	C	–13.3V
	E	0V
Q7	B	–13.3V
	C	–19V
	E	–
Q8	B	–
	C	–19V
	E	–12V
Q9	B	–6V (POWER ON), 0.7V (OFF)
	C	6.7V (POWER ON), 0.4V (OFF)
	E	0V
Q10	B	6.1V
	C	–
	E	6.8V
Q11	B	6.6V
	C	12V
	E	5.9V
Q12	B	0.7V
	C	0.1V
	E	0V
Q13	B	16V
	C	18V
	E	15.2V
Q14	B	14.5V
	C	15.1V
	E	15.2V
IC1	O	5.6V
	G	–
	I	13V

X13-4740-11

Q2	B	–
	C	1.6V
	E	0V
Q6,7	B	–
	C	0V
	E	–
Q8	B	–
	C	–
	E	14.3V
IC1	1	0V
	2	6.5V
	3	6.3V
	4	7.3V
	5	14.1V
	6	14.1V
	7	14.1V
	8	14.1V
	9	14.1V
	10	14.1V
	11	14.1V
	12	14.1V
	13	14.1V
	14	0V
	15	0V
	16	0V
	17	1.6V
	18	15.0V
IC2	1	–2.7V
	2	–
	3	–
	4	0V
	5	4.0V
	6	2.2V
	7	13.8V
	8	15.0V
IC3	1	4.0V
	2	4.0V
	3	4.0V
	4	0V
	5	4.0V
	6	2.6V
	7	13.8V
	8	15.0V
IC4	1	0.1V
	2	1.7V
	3	0V
	4	–
	5	–
	6	–
	7	–
	8	–
	9	6.3V
	10	0V

IC4	11	–
	12	15.0V
	13	2.7V
	14	0.1V
	15	–
	16	–
	17	0.8V
	18	0.8V
	19	0.9V
	20	0V
	21	14.3V
	22	0V
IC5	1	14.4V
	2	14.4V
	3	14.4V
	4	14.4V
	5	0V
	6	14.4V
	7	4.0V
	8	1.1V
	9	15.0V
IC6	1	0V, 4.2V, 4.9V
	2	0V, 4.2V, 4.9V
	3	0V, 4.2V, 4.9V
	4	0V, 4.2V, 4.9V
	5	0V, 4.2V, 4.9V
	6	0V, 4.2V, 4.9V
	7	0V, 4.2V, 4.9V
	8	0V, 4.2V, 4.9V
	9	0V
	10	0V, 13.6V
	11	0V, 13.6V
	12	0V, 13.6V
	13	0V, 13.6V
	14	0V, 13.6V
	15	0V, 13.6V
	16	0V, 13.6V
	17	0V, 13.6V
	18	0V, 13.6V
IC7	1	0V, 4.3V
	2	0V, 4.3V
	3	0V, 4.3V
	4	0V, 4.3V
	5	0V, 4.3V
	6	0V, 4.3V
	7	0V, 4.3V
	8	0V, 4.3V
	9	0V
	10	0V, 13.6V
	11	0V, 13.6V
	12	0V, 13.6V
	13	0V, 13.6V
	14	0V, 13.6V
	15	0V, 13.6V
	16	0V, 13.6V
	17	0V, 13.6V
	18	0V, 13.6V

IC8	1	0V
	2	0V
	3	0V
	4	0V
	5	0.7V, 12V
	6	0.7V, 12V
	7	0.7V, 12V
	8	0.7V, 12V
	9	0.7V, 12V
	10	0.7V, 12V
	11	0.7V, 12V
	12	0.7V, 12V
	13	0.7V, 12V
	14	0V
	15	0.7V, 12V
	16	0.7V, 12V
	17	0.7V, 12V
	18	0.7V, 12V
	19	0.7V, 12V
	20	0.7V, 12V
	21	0.7V, 12V
	22	0.7V, 12V
	23	0.7V, 12V
	24	0.7V, 12V
	25	0.7V, 12V
	26	0.7V, 12V
	27	0.7V, 12V
	28	4.8V
IC9	1	1.1V
	2	0V
	3	0V
	4	0V, 4.8V
	5	0V, 4.8V
	6	5.0V
IC10	1	–
	2	0V, 4.8V
	3	–
	4	–
	5	–
	6	–
	7	0V
	8	0V, 4.8V
	9	0V, 4.8V
	10	–
	11	–
	12	–
	13	–
	14	5.0V
IC11	1	–
	2	–
	3	0V, 4.8V
	4	–
	5	–
	6	–
	7	0V

IC11	8	0V
	9	5.0V
	10	–
	11	–
	12	–
	13	–
	14	5.0V

KT-1100SD

PC BOARD

	8	0V
	9	5.0V
C11	10	–
	11	–
	12	–
	13	–
	14	5.0V

POWER SUPPLY(X00-2290-11)
Component side view

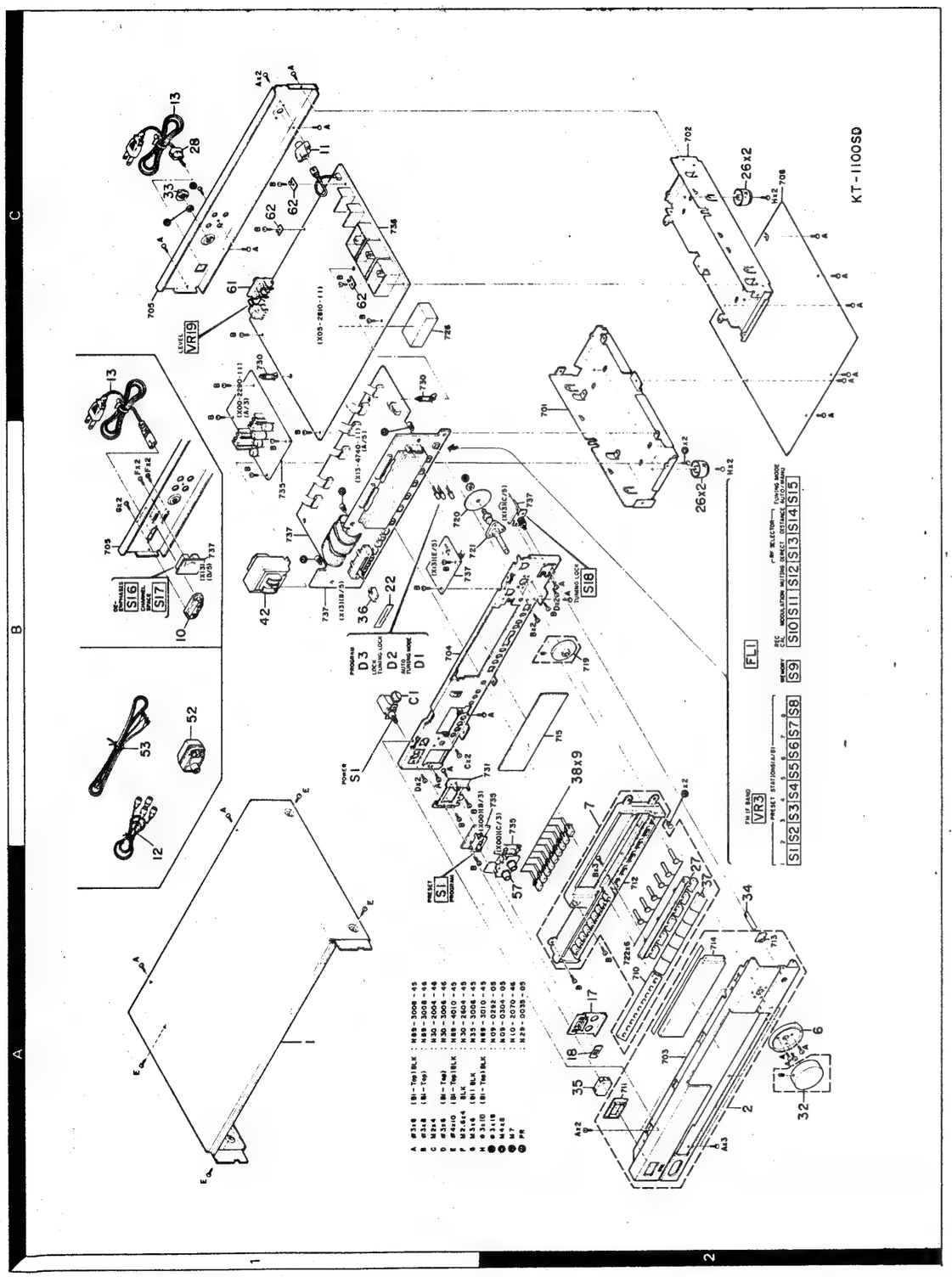
TUNER(X05-2810-11)

SUB-CURCUIT(X13-4740-11)
Component side view

KT-1100SD(2/2)

Refer to the schematic diagram for the values of resistors and capacitors.
The PC board drawing is viewed from the side easy to check.

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

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				KT-1100SD			
	1	1A	*	A01-1342-02	METALLIC CABINET		
	2	2A	*	A20-4164-02	PANEL ASSY		
	6	2A	*	B07-1314-04	ESCUTCHEON(TUNING)		
	7	2A	*	B07-1330-02	ESCUTCHEON ASSY		
	-			B46-0092-03	WARRANTY CARD	K	
	-			B46-0122-03	WARRANTY CARD	E	
	-		*	B50-5309-00	INSTRUCTION MANUAL(ENGLISH)		
	-		*	B50-5310-00	INSTRUCTION MANUAL(FRENCH)	ME	
	-		*	B50-5311-00	INSTRUCTION MANUAL(SPANISH)	M	
	-		*	B50-5312-00	INSTRUCTION MANUAL(G,D,I)	E	
	-			B58-0245-23	CAUTION CARD	E	
	-			B58-0269-04	CAUTION CARD	K	
	D1 -3	2C		B30-0431-05	LED(LN21CPH)AUTO,LOCK,PROGRAM		
Δ	C1	1B		C91-0023-05	CERAMIC 0.01UF AC250V	M	
Δ	C1	1B		C91-0647-05	CERAMIC 0.01UF P	KE	
Δ	10	1B		E03-0102-15	AC INLET	M	
	11	1C		E04-0006-05	RF COAXIAL CABLE RECEPTACLE		
	12	1A		E30-0505-05	AUDIO CORD		
Δ	13	1C		E30-0181-05	AC POWER CORD	K	
Δ	13	1C		E30-0459-05	AC POWER CORD	E	
Δ	13	1B		E30-1305-15	AC POWER CORD (INLET)	M	
	17	2A	*	F19-0338-04	BLIND PLATE(PROG/PRE,FIXED OUT		
	18	2A	*	F19-0349-04	BLIND PLATE(PROG/PRESET SW)		
	22	1B		G10-0065-04	NON-WOVEN FABRIC(FM IF BAND)		
	-		*	H01-5292-04	ITEM CARTON CASE		
	-		*	H10-1743-02	POLYSTYRENE FOAMED FIXTURE		
	-			H25-0078-04	PROTECTION BAG (235X315)		
	-			H25-0181-04	PROTECTION BAG (150X260X0.05)		
	-			H25-0224-04	PROTECTION BAG (800X400)		
	26	2B,2C		J02-0127-05	FOOT		
	27	2A	*	J19-2148-03	HOLDER		
Δ	28	1C		J42-0083-05	POWER CORD BUSHING	KE	
	-			J61-0307-05	WIRE BAND		
	32	2A	*	K21-0405-04	KNOB TUNING		
	33	1C		K23-0351-04	KNOB OUTPUT LEVEL		
	34	2A		K27-0917-04	KNOB(BUTTON) TUNING LOCK		
	35	2A		K27-1141-04	KNOB(BUTTON) POWER		
	36	1B	*	K27-1292-04	KNOB(BUTTON) FM IF BAND		
	37	2A	*	K27-1293-03	KNOB(BUTTON) FUNCTION SW		
	38	2B		K29-1588-04	KNOB(BTN) 1,2,3,4,5,6,7,8,MEMO		
Δ	42	1B	*	L01-3691-05	POWER TRANSFORMER	K	
Δ	42	1B	*	L01-3692-05	POWER TRANSFORMER	E	
Δ	42	1B	*	L01-3694-05	POWER TRANSFORMER	M	
	J			N09-0292-05	STEPPED SCREW (Ø3X19)	E	
	K			N09-0304-05	TAPTITE SCREW (M4X8)		
	L			N10-2070-46	HEXAGON NUT (M7)		
	M			N29-0035-05	PUSH RIVET (Ø3.5X5.5)		
Δ	S1	1B		S40-1067-05	PUSH SWITCH (POWER TYPE)		

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S2	1B		T90-0136-05	ANTENNA ADAPTOR		
S3	1B		T90-0132-05	T TYPE ANTENNA (FM)		
POWER SUPPLY (X00-2290-11)						
C1			CK45FE2H103P	CERAMIC 0.010UF P		
C3			CK45FE2H103P	CERAMIC 0.010UF P		
C5 ,6			CE04FW1H331M	ELECTRO 330UF 50WV		
C7			CE04FW1J101M	ELECTRO 100UF 63WV		
C8			CE04FW1J470M	ELECTRO 47UF 63WV		
C9 -12			CK45FF1H103Z	CERAMIC 0.010UF Z		
C13			CE04FW1E222M	ELECTRO 2200UF 25WV		
C14			CE04FW1E102M	ELECTRO 1000UF 25WV		
C15			CE04FW1E101M	ELECTRO 100UF 25WV		
C16			CE04FW1A101M	ELECTRO 100UF 10WV		
C17			CE04FW1A220M	ELECTRO 22UF 10WV		
C18			CE04FW1C471M	ELECTRO 470UF 16WV		
C19			CE04FW1E101M	ELECTRO 100UF 25WV		
C20			CE04FW1C471M	ELECTRO 470UF 16WV		
C21 ,22			CK45FF1H103Z	CERAMIC 0.010UF Z		
C23			CE04FW1H010M	ELECTRO 1.0UF 50WV		
C24			CE04FW1C100M	ELECTRO 10UF 16WV		
C25 ,26			CE04FW1A470M	ELECTRO 47UF 10WV		
C27			CE04FW1C100M	ELECTRO 10UF 16WV		
C28			CE04FW1A220M	ELECTRO 22UF 10WV		
C29			CE04FW1C220M	ELECTRO 22UF 16WV		
C30			CE04FW1C100M	ELECTRO 10UF 16WV		
S7	2A		E13-0220-05	PHONO JACK (2P)		
R1			RD14AB2E101J	FL-PROOF RD 100 J 1/4W	K	
R1		*	R92-0228-05	FUSE RESIST 100 G 1/4W	E	
R2			RD14AB2E330J	FL-PROOF RD 33 J 1/4W	KE	
R14			RS14DB3A101J	FL-PROOF RS 100 J 1W		
R25			RD14AB2E681J	FL-PROOF RD 680 J 1/4W	KE	
R28			R92-0173-05	RC 2.2M M 1/2W	K	
S1	1A		S31-2062-05	SLIDE SWITCH (PROGRAM/PRESET)		
D1			DSM1A1	DIODE		
D3			DSM1A1	DIODE		
D5 ,6			RD18J(B2)	ZENER DIODE		
D7			RD20J(B1)	ZENER DIODE		
D8 -11			DSM1A1	DIODE		
D12			RD6.2E(B2)	ZENER DIODE		
D13 ,14			1S2076A	DIODE		
D15 -18			1S1555	DIODE		
D15 -18			1S2076	DIODE		
D19			RD6.2E(B2)	ZENER DIODE		
D20 ,21			1S1555	DIODE		
D20 ,21			1S2076	DIODE		
D22			RD16E(B2)	ZENER DIODE		
IC1			UPC78M05H	IC(VOLTAGE REGULATOR) +5V		
Q1			2SK163(L,M)	FET		
Q1			2SK364(GR,BL)	FET		
Q2			2SC2003(L,K)	TRANSISTOR		
Q3 ,4			2SC2320(E,F)	TRANSISTOR		
Q3 ,4			2SC945(A)(Q,P)	TRANSISTOR		

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Q5			2SD882(Q,P)	TRANSISTOR				
Q6 ,7			2SA733(A)(Q,P)	TRANSISTOR				
Q6 ,7			2SA999(E,F)	TRANSISTOR				
Q8			2SB772(Q,P)	TRANSISTOR				
Q9			2SC2320(E,F)	TRANSISTOR				
Q9			2SC945(A)(Q,P)	TRANSISTOR				
Q10			2SA733(A)(Q,P)	TRANSISTOR				
Q10			2SA999(E,F)	TRANSISTOR				
Q11 ,12			2SC2320(E,F)	TRANSISTOR				
Q11 ,12			2SC945(A)(Q,P)	TRANSISTOR				
Q13			2SD863(E,F)	TRANSISTOR				
Q14			2SA954(L,K)	TRANSISTOR				
TUNER (X05-2810-11)								
C1			CC45FSH1H080D	CERAMIC	8.0PF	D		
C2 ,3		*	CC45FPH1H390J	CERAMIC	39PF	J		
C4			CC45FSL1H101J	CERAMIC	100PF	J		
C5			CK45FB1H102K	CERAMIC	1000PF	K		
C6		*	CC45FSH1H020C	CERAMIC	2.0PF	C		
C7			CC45FSH1H030C	CERAMIC	3.0PF	C		
C8			CK45FB1H102K	CERAMIC	1000PF	K		
C9			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C10		*	CC45FPH1H390J	CERAMIC	39PF	J		
C11		*	CC45FSH1H050C	CERAMIC	5.0PF	C		
C12		*	CC45FSH1H100D	CERAMIC	10PF	D		
C13			C91-0086-05	CERAMIC	0.91PF	500WV		
C14		*	CC45FSH1H040C	CERAMIC	4.0PF	C		
C15		*	CC45FSH1H050C	CERAMIC	5.0PF	C		
C16		*	CC45FPH1H390J	CERAMIC	39PF	J		
C17 -23			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C24			CK45FB1H102K	CERAMIC	1000PF	K		
C26		*	CC45FPH1H390J	CERAMIC	39PF	J		
C27		*	CC45FTH1H040C	CERAMIC	4.0PF	C		
C28			CC45FSL1H101J	CERAMIC	100PF	J		
C29			CK45FB1H102K	CERAMIC	1000PF	K		
C30			CC45FSL1H040C	CERAMIC	4.0PF	C		
C31		*	CC45FPH1H330J	CERAMIC	33PF	J		
C32			CC45FTH1H070D	CERAMIC	7.0PF	D		
C33			CC45FTH1H120J	CERAMIC	12PF	J		
C34		*	CC45FTH1H100D	CERAMIC	10PF	D		
C35		*	CC45FTH1H150J	CERAMIC	15PF	J		
C36 ,37			CK45FB1H102K	CERAMIC	1000PF	K		
C38			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C39			C91-0083-05	CERAMIC	0.01UF	N		
C40			CE04FW1C471M	ELECTRO	470UF	16WV		
C41			CC45FSL1H100D	CERAMIC	10PF	D		
C42			CC45FSL1H101J	CERAMIC	100PF	J		
C43 ,44			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C45 ,46			C91-0083-05	CERAMIC	0.01UF	N		
C47 ,48			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C49			C91-0083-05	CERAMIC	0.01UF	N		
C50 ,51			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C52			CC45FSL1H221J	CERAMIC	220PF	J		
C53			CE04HW1H2R2M	NP-ELEC	2.2UF	50WV		
C54 -56			CK45FF1H103Z	CERAMIC	0.010UF	Z		

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C141		*	CQ09FS1H561JY0	P0LYSTY 560PF J	E	
C142,143			CC45FSL1H221J	CERAMIC 220PF J		
C144			CK45F1H103Z	CERAMIC 0.010UF Z	E	
C145			CE04HW1H2R2M	NP-ELEC 2.2UF 50WV		
C146-151			CK45FF1H103Z	CERAMIC 0.010UF Z		
C152			CE04FW1H2R2M	ELECTR0 2.2UF 50WV		
C153			CK45FF1H103Z	CERAMIC 0.010UF Z		
C154		*	CE04FW1J010M	ELECTR0 1.0UF 63WV		
C155			CE04GW1HR22M	LL-ELEC 0.22UF 50WV		
C156			CF92FV1H223J	MF 0.022UF J		
C157			CE04FW1J220M	ELECTR0 22UF 63WV		
C158			CK45FB1H102K	CERAMIC 1000PF K		
C159			CK45FF1H103Z	CERAMIC 0.010UF Z		
C160			CE04FW1C100M	ELECTR0 10UF 16WV		
C161			CK45FF1H103Z	CERAMIC 0.010UF Z		
C162			CE04FW1H2R2M	ELECTR0 2.2UF 50WV		
C163			C91-0770-05	ELECTR0 22000UF 5.5WV		
C164			C91-0083-05	CERAMIC 0.01UF N		
C165,166			CC45FCH1H330J	CERAMIC 33PF J		
C168,169			CK45FF1H103Z	CERAMIC 0.010UF Z		
C170			CE04FW1V4R7M	ELECTR0 4.7UF 35WV		
C171,172			CK45FF1H103Z	CERAMIC 0.010UF Z		
C174-176			CK45FF1H103Z	CERAMIC 0.010UF Z		
C177			CK45FB1H102K	CERAMIC 1000PF K		
C178			CK45FF1H103Z	CERAMIC 0.010UF Z		
C179			CK45FB1H102K	CERAMIC 1000PF K		
C180-182			CK45FF1H103Z	CERAMIC 0.010UF Z		
C183,184			CE04FW1C100M	ELECTR0 10UF 16WV		
C185			CE04FW1V4R7M	ELECTR0 4.7UF 35WV		
C186,187			CE04HW1H010M	NP-ELEC 1.0UF 50WV		
C188			CE04FW1A101M	ELECTR0 100UF 10WV		
TC1			C05-0302-05	CERAMIC TRIMMER CAPACITOR(11PF		
TC2			C05-0301-05	CERAMIC TRIMMER CAPACITOR(7PF)		
TC3 -5			C05-0302-05	CERAMIC TRIMMER CAPACITOR(11PF		
TC6			C05-0301-05	CERAMIC TRIMMER CAPACITOR(7PF)		
61	1C		E13-0432-05	PHONO JACK (4P)		
62	1C		E23-0125-05	TERMINAL		
CF1 -5			L72-0190-05	CERAMIC FILTER	E	
CF1 -5			L72-0505-05	CERAMIC FILTER (MP3H15-A)	KM	
L1 ,2			L31-0495-05	FM-RF COIL		
L3			L31-0492-05	FM-RF COIL		
L4			L31-0495-05	FM-RF COIL		
L5			L31-0501-05	FM-RF COIL		
L6			L32-0270-05	FM OSCILLATING COIL		
L7 -9			L40-1092-14	SMALL FIXED INDUCTOR(1.0UH,K)		
L10			L39-0098-05	MATCHING COIL		
L11 ,12			L30-0381-05	FM IFT		
L13			L39-0098-05	MATCHING COIL		
L14			L30-0416-05	FM IFT		
L15 -17			L40-1092-14	SMALL FIXED INDUCTOR(1.0UH,K)		
L18			L30-0416-05	FM IFT		
L20			L30-0416-05	FM IFT		
L21			L32-0294-05	FM OSCILLATING COIL		
L22 ,23			L40-1001-14	SMALL FIXED INDUCTOR(10UH,K)		

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C57			C91-0083-05	CERAMIC	0.01UF	N		
C58 ,59			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C60			CC45FSL1H221J	CERAMIC	220PF	J		
C61			CE04HW1H2R2M	NP-ELEC	2.2UF	50WV		
C62 -64			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C65			C91-0083-05	CERAMIC	0.01UF	N		
C66 ,67			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C68			CE04HW1H2R2M	NP-ELEC	2.2UF	50WV		
C69			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C70			C91-0083-05	CERAMIC	0.01UF	N		
C71 ,72			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C73			CK45FB1H102K	CERAMIC	1000PF	K		
C74			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C76			CK45FF1H103Z	CERAMIC	0.010UF	Z		
C77 ,78			CC45FCH1H330J	CERAMIC	33PF	J		
C79			CE04FW1A471M	ELECTRO	470UF	10WV		
C80			CC45FSL1H220J	CERAMIC	22PF	J		
C81			CQ09FS1H101J	POLYSTY	100PF	J		
C82 ,83			CE04FW1C101M	ELECTRO	100UF	16WV		
C84			CE04HW1H2R2M	NP-ELEC	2.2UF	50WV	K	
C84		*	CE04HW1H3R3M	NP-ELEC	3.3UF	50WV	ME	
C86			CQ09FS1H151J	POLYSTY	150PF	J		
C87			CE04FW1HR47M	ELECTRO	0.47UF	50WV		
C88 ,89		*	CE04HW1E330M	NP-ELEC	33UF	25WV		
C92 ,93		*	CE04HW1E220M	NP-ELEC	22UF	25WV		
C94			CC45FSL1H020C	CERAMIC	2.0PF	C		
C95 -99			CF92FV1H102J	MF	1000PF	J		
C100			CE04HW1E100M	NP-ELEC	10UF	25WV		
C101-103			CF92FV1H102J	MF	1000PF	J		
C105-107			CF92FV1H123J	MF	0.012UF	J		
C108			CE04FW1V4R7M	ELECTRO	4.7UF	35WV		
C111			CF92FV1H223J	MF	0.022UF	J		
C112			CF92FV1H103J	MF	0.010UF	J		
C113			CQ09FS1H472JY0	POLYSTY	4700PF	J		
C114			CF92FV1H223J	MF	0.022UF	J		
C115			CF92FV1H103J	MF	0.010UF	J		
C116			CE04GW1H010M	LL-ELEC	1.0UF	50WV		
C117			CE04GW1HR22M	LL-ELEC	0.22UF	50WV		
C118			CE04GW1HR47M	LL-ELEC	0.47UF	50WV		
C119			CQ09FS1H361JY0	POLYSTY	360PF	J		
C120			CC45FTH1H101J	CERAMIC	100PF	J		
C121			CE04FW1A471M	ELECTRO	470UF	10WV		
C122			CF92FV1H183J	MF	0.018UF	J		
C123			CQ09FS1H471JY0	POLYSTY	470PF	J		
C124			CQ09FS1H122JY0	POLYSTY	1200PF	J		
C125			CE04FW1H2R2M	ELECTRO	2.2UF	50WV		
C126			CE04HW1H2R2M	NP-ELEC	2.2UF	50WV		
C127			CE04HW1E100M	NP-ELEC	10UF	25WV		
C130			CC45FSL1H150J	CERAMIC	15PF	J		
C133,134		*	CE04HW1E220M	NP-ELEC	22UF	25WV		
C135,136			CF92FV1H123J	MF	0.012UF	J	K	
C135,136			CF92FV1H822J	MF	8200PF	J	ME	
C137,138			CF92FV1H392J	MF	3900PF	J	M	
C139,140		*	CE04HW1A101M	NP-ELEC	100UF	10WV		
C141			CQ09FS1H221JY0	POLYSTY	220PF	J	KM	

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L24			L40-6825-29	SMALL FIXED INDUCTOR(6.8MH,J)		
L25			L40-1092-14	SMALL FIXED INDUCTOR(1.0UH,K)		
L26			L35-0059-05	MPX COIL		
L27		*	L40-1025-29	SMALL FIXED INDUCTOR(1.0MH,J)		
L28			L35-0059-05	MPX COIL		
L29			L79-0107-05	LC FILTER		
X1			L77-0578-05	CRYSTAL RESONATOR (7.2MHZ)		
C167			R90-0544-05	MULTI-COMP 0.01UF X3		
C173			R90-0544-05	MULTI-COMP 0.01UF X3		
R12			RD14AB2E470J	FL-PROOF RD 47 J 1/4W	KE	
R19 -21			RD14AB2E470J	FL-PROOF RD 47 J 1/4W	KE	
R22			RD14AB2E101J	FL-PROOF RD 100 J 1/4W	KE	
R23 ,24			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
R25			RD14AB2E101J	FL-PROOF RD 100 J 1/4W	KE	
R26			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
R27			RD14AB2E331J	FL-PROOF RD 330 J 1/4W	KE	
R33			RD14AB2E101J	FL-PROOF RD 100 J 1/4W	KE	
R40			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
R43			RD14AB2E100J	FL-PROOF RD 10 J 1/4W	KE	
R55 ,56			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
R67			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
R68			RD14AB2E331J	FL-PROOF RD 330 J 1/4W	KE	
R74			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
R85			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
R86			RD14AB2E331J	FL-PROOF RD 330 J 1/4W	KE	
R92			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
R103			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
R104			RD14AB2E331J	FL-PROOF RD 330 J 1/4W	KE	
R110			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
R121-123			RD14AB2E101J	FL-PROOF RD 100 J 1/4W	KE	
R138,139			RD14AB2E470J	FL-PROOF RD 47 J 1/4W	KE	
R264		*	RD14AB2E131J	FL-PROOF RD 130 J 1/4W	KE	
R399			RD14AB2E101J	FL-PROOF RD 100 J 1/4W	KE	
R400			RD14AB2E470J	FL-PROOF RD 47 J 1/4W	KE	
R411			RD14AB2E220J	FL-PROOF RD 22 J 1/4W	KE	
VR1			R12-0306-05	TRIMMING POT(500)DISTORTION		
VR2 ,3			R12-3312-05	TRIMMING POT(10K)DISTORTION		
VR4			R12-0306-05	TRIMMING POT(500)DISTORTION		
VR5			R12-3312-05	TRIMMING POT(10K)DISTORTION		
VR6			R12-1313-05	TRIMMING POT(2K) DISTORTION		
VR7			R12-3312-05	TRIMMING POT(10K)DISTORTION		
VR8 -10			R12-4306-05	TRIMMING POT(50K)DISTORTION		
VR11			R12-3312-05	TRIMMING POT(10K)PILOT CANCEL		
VR12-14			R12-2305-05	TRIMMING POT(5K)VCO,SEPARATION		
VR15-17			R12-4306-05	TRIMMING POT(50K)SEPARATION		
VR18			R12-2305-05	TRIMMING POT(5K) SIGNAL LEVEL		
VR19	1C		R06-2012-05	POTENTIOMETER(5KX2)OUTPUT LEV		
D1		*	KV1320-7	VARIABLE CAPACITANCE DIODE		
D3		*	KV1320-7	VARIABLE CAPACITANCE DIODE		
D5		*	KV1320-7	VARIABLE CAPACITANCE DIODE		
D7		*	KV1320-7	VARIABLE CAPACITANCE DIODE		
D9		*	KV1320-7	VARIABLE CAPACITANCE DIODE		
D13 ,14		*	KV1320-7	VARIABLE CAPACITANCE DIODE		
D15 ,16			1SS85	DIODE		

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D17		*	1SV80	DIODE		
D18			1SS85	DIODE		
D19 -13			1S1555	DIODE		
D19 -30			1S2076	DIODE		
D31 -34			M8513A-0	VARISTOR		
D35			KV1226(EF)	VARIABLE CAPACITANCE DIODE		
D37			RD8.2J(B2)	ZENER DIODE		
D38			M8513A-0	VARISTOR		
D39 -42			1S1555	DIODE		
D39 -42			1S2076	DIODE		
D43			1N60	DIODE		
D44 ,45			RD5.1E(B2)	ZENER DIODE		
D46			1S1555	DIODE		
D46			1S2076	DIODE		
D47			RD8.2E(B2)	ZENER DIODE		
D48 -75			1S1555	DIODE		
D48 -75			1S2076	DIODE		
IC1			NJM2043D-D	IC(OP AMP) X2		
IC2			NJM4558D-N	IC(OP AMP) X2		
IC3 -5			NJM4200D	IC(QUARTER-SQUARE MULTIPLIER)		
IC6 -11			NJM4558D-N	IC(OP AMP) X2		
IC12			NJM4560D-N	IC(OP AMP) X2		
IC13		*	AN7418S	IC(FM MPX)		
IC14-17			NJM4200D	IC(QUARTER-SQUARE MULTIPLIER)		
IC18-20			NJM4560D-N	IC(OP AMP) X2		
IC22-25			AN6555	IC(OP AMP) X2		
IC26			TD6104P	IC(PRE SCALER)		
IC27			TC9147BP	IC(DIGITAL TUNING SYSTEM)		
IC28,29			UPD4013BC	IC(D FLIP-FLOP) X2		
IC30			TC4025BP	IC(NOR) X3		
IC30			UPD4025BC	IC(NOR) X3		
IC31			TC9130P	IC(4CH TOUCH SW)		
IC32			TC4001BP	IC(NOR) X4		
IC32			UPD4001BC	IC(NOR) X4		
Q1			3SK73(GR)	FET		
Q2			2SK125T	DUAL FET		
Q3 ,4			2SK125	FET		
Q5			2SK241(Y,GR)	FET		
Q6			3SK73(GR)	FET		
Q7			2SK241(Y,GR)	FET		
Q8 -27			2SC1923(O)	TRANSISTOR		
Q8 -27			2SC1923(R)	TRANSISTOR		
Q28 ,29			2SK161(Y,GR)	FET		
Q30			2SK163(L,M)	FET		
Q30		*	2SK364(GR,BL)	FET		
Q31 -33			2SK105(F,H)	FET		
Q31 -33			2SK246(Y,GR)	FET		
Q34 ,35			2SA733(A)(Q,P)	TRANSISTOR		
Q34 ,35			2SA999(E,F)	TRANSISTOR		
Q36			2SK163(L,M)	FET		
Q36		*	2SK364(GR,BL)	FET		
Q37			2SK105(F,H)	FET		
Q37			2SK246(Y,GR)	FET		
Q38 ,39			2SC2320(E,F)	TRANSISTOR		
Q38 ,39			2SC945(A)(Q,P)	TRANSISTOR		

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Q40			2SK163(L,M)	FET		
Q40		*	2SK364(GR,BL)	FET		
Q41 ,42			2SC2320(E,F)	TRANSISTOR		
Q41 ,42			2SC945(A)(Q,P)	TRANSISTOR		
Q43 ,44			2SA733(A)(Q,P)	TRANSISTOR		
Q43 ,44			2SA999(E,F)	TRANSISTOR		
Q45			2SK163(L,M)	FET		
Q45		*	2SK364(GR,BL)	FET		
Q46 -48			2SK105(F,H)	FET		
Q46 -48			2SK246(Y,GR)	FET		
Q49 -52			2SK163(L,M)	FET		
Q49 -52		*	2SK364(GR,BL)	FET		
Q53			2SC1923(O)	TRANSISTOR		
Q53			2SC1923(R)	TRANSISTOR		
Q54			2SC2320(E,F)	TRANSISTOR		
Q54			2SC945(A)(Q,P)	TRANSISTOR		
Q55			2SK163(L,M)	FET		
Q55		*	2SK364(GR,BL)	FET		
Q56 ,57			2SC1845(F,E)	TRANSISTOR		
Q56 ,57			2SC1980(S,T)	TRANSISTOR		
Q58 -62			2SA733(A)(Q,P)	TRANSISTOR		
Q58 -62			2SA999(E,F)	TRANSISTOR		
Q63 ,64			2SC2320(E,F)	TRANSISTOR		
Q63 ,64			2SC945(A)(Q,P)	TRANSISTOR		
Q65 -67			2SA733(A)(Q,P)	TRANSISTOR		
Q65 -67			2SA999(E,F)	TRANSISTOR		
Q68			2SK163(M)	FET		

SUB-CURCUIT (X13-4740-11)

C1 -4			CE04FW1H2R2M	ELECTRO	2.2UF	50WV	
C5			CE04FW1H0R1M	ELECTRO	0.1UF	50WV	
C6 -8			CE04FW1C100M	ELECTRO	10UF	16WV	
C9			CE04HW1H2R2M	NP-ELEC	2.2UF	50WV	
C10			CE04FW1C100M	ELECTRO	10UF	16WV	M
C11			CE04FW1HR47M	ELECTRO	0.47UF	50WV	
C12			CE04FW1C100M	ELECTRO	10UF	16WV	
C13			CE04FW1HR22M	ELECTRO	0.22UF	50WV	
C14			CE04FW1C100M	ELECTRO	10UF	16WV	
C16			CK45FB1H102K	CERAMIC	1000PF	K	
C17			C91-0757-05	CERAMIC	0.001UF	K	
C18			CK45FB1H102K	CERAMIC	1000PF	K	
C19			CK45FF1H103Z	CERAMIC	0.010UF	Z	
C20			CE04FW1C100M	ELECTRO	10UF	16WV	
C21			CE04FW1V4R7M	ELECTRO	4.7UF	35WV	
C22			C91-0083-05	CERAMIC	0.01UF	N	
R37			R90-0203-05	MULTI-COMP	100KX5	J 1/6W	
R47			R90-0193-05	MULTI-COMP	47KX9	J 1/6W	
R48			R90-0192-05	MULTI-COMP	47KX13	J 1/6W	
R49			RD14AB2E100J	FL-PROOF RD	10	J 1/4W	KE
VR1			R12-3312-05	TRIMMING POT (10K) DEVIATION			
VR2			R12-0306-05	TRIMMING POT (500) T-S DISPLAY			
VR3	1C	*	R13-5052-05	POTENTIOMETER(100K)FM IF BAND			
S1 -15	2C		S40-1085-05	PUSH SW (1,2,3,4,5,6,7,8,MEM)			
S16 ,17	1B		S31-2072-05	SLIDE SWITCH (DE-ENP,CH SPACE)			M

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KA-1100SD
KA-990 SD
BASIC-X1
GE-1100

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S18	2B		S40-2122-05	PUSH SWITCH (TUNING LOCK)		
PH9		*	T95-0024-05	OPTO ISOLATOR(GP-1A02)		
D1 -3			1S1555	DIODE		
D1 -3			1S2076	DIODE	KE	
D1 -5			1S2076	DIODE	M	
D5			1S1555	DIODE		
D5			1S2076	DIODE	KE	
D9 ,10			1S1555	DIODE		
D9 ,10			1S2076	DIODE		
D12			1S1555	DIODE		
D12			1S2076	DIODE		
FL1	1C	*	CP5185GR	FLUORESCENT INDICATOR TUBE		
IC1		*	BA668A	IC(12PT FL PEAK LEVEL METER DR		
IC2 ,3		*	AN6562	IC(OP AMP) X2		
IC4		*	LB1473	IC(16CH FREQ DISPLAY LED DR)		
IC5		*	LB1493	IC(5PT FL LEVEL METER DRIVER)		
IC6 ,7		*	LB1290	IC(8CH TRANSISTOR ARRAY)		
IC8			TD6301AP	IC(FL/LED/LCD FREQ DISPLAY DR)		
IC10		*	UPD4001BC	IC(NOR) X4		
IC11			UPD4013BC	IC(D FLIP-FLOP) X2		
Q1 -3			2SC2320(E,F)	TRANSISTOR		
Q1 -3			2SC945(A)(Q,P)	TRANSISTOR	KE	
Q1 -5			2SC945(A)(Q,P)	TRANSISTOR	M	
Q6 -8			2SA733(A)(Q,P)	TRANSISTOR	M	
Q6 -8			2SA999(E,F)	TRANSISTOR	M	
Q9			2SC2320(E,F)	TRANSISTOR		
Q9			2SC945(A)(Q,P)	TRANSISTOR		
Q11 ,12			2SC945(A)(Q,P)	TRANSISTOR	ME	

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Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

TRIO-KENWOOD CORPORATION

Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

KENWOOD ELECTRONICS
DIVISION OF KENWOOD U.S.A. CORPORATION
1315 E. Watsoncenter Rd., Carson, California 90745, U.S.A.
75 Seaview Drive, Secaucus, New Jersey 07094, U.S.A.

TRIO-KENWOOD CANADA INC.
1070 Jayson Court, Mississauga, Ontario, Canada L4W 2V5

TRIO-KENWOOD ELECTRONICS, N.V.
Leuvensesteenweg 504 B-1930 Zaventem, Belgium

TRIO-KENWOOD ELECTRONICS GmbH
Rembrücker Str. 15, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A.
5, Boulevard Ney, 75018 Paris, France

TRIO-KENWOOD (AUSTRALIA) PTY. LTD. (INCORPORATED IN N.S.W.)
4E Woodcock Place, Lane Cove, N.S.W. 2066, Australia

KENWOOD & LEE ELECTRONICS, LTD.
Wang Kee Building, 5th Floor, 34-37, Connaught Road, Central, Hong Kong

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